

CHARLES R. BUCKLAND.

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THE SAN FRANCISCO MERCHANT.

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GRAFTING RESISTANT VINES.

ED. S. F. MERCHANT:—It is both unfortunate and absurd that the San Francisco and other papers should be creating a scare amongst amateur viticulturists by reason of the incidental mention of some isolated cases of failure in grafting young resistant vines in the vicinity of St. Helena. The reason, as has been fully explained by Mr. Wetmore, was poor and careless work, and the nonapplication of certain physiological laws. This one incident alone pleads powerfully for the introduction into our public schools and other places of learning, of a more thorough instruction in vegetable physiology and the theory of horticulture. When this is accomplished we shall not see around us so many failures in all branches of farming.

I differ, however, from Mr. Wetmore in some details connected with this work. I believe the "English Cleft," or "Whip" graft to be the best for young vines, and not the common cleft or wedge graft, as he advocates. My reasons, briefly, are as follows: In the "English cleft" graft a long, sloping cut is made (1 1/4 inch) and a tongue one-quarter inch in length, the same for both stock and scion, and the latter is fitted or dove-tailed into the former. In this operation the stock is not split, and the surface for union is larger than in the other method.

In the common cleft or wedge graft it is almost impossible not to split the stock, more or less. The stock is cut off square, with a saw or shears, and the knife pushed straight down for one-half an inch or more—generally very much more, for though it is intended to cut or split across the grain, this is not always possible. In receiving the wedge, the stock is often split still more, which is almost unavoidable, for the mouth of the split has to be forced open to the size of the diameter of the scion at its thickest end. Where the stock is too large to permit of the "English cleft," it is advisable to make a "shoulder" to the wedge, which will prevent the necessity of tearing open the stock so much. I have grafted by both of these methods and others, in my nursery for many years, but my men now will use only the "English cleft," as they say it is not only the best, but the easiest.

Mr. Wetmore thinks the common wedge graft can be done with greater ease, and cites this as a great point in its favor. My experience, and the experience of

thousands of other nurserymen does not teach this. Nothing is simpler than to graft a grape vine; in all the multitudinous species of trees and plants a nurseryman has to graft and propagate, grafting the *vitis* would be considered the least of all tasks.

Why is it that so many farmers who, five years ago knew nothing of farming save the raising of cereals and live stock are now called "viticulturists?" Simply because to acquire that title it was necessary but to plough the land, make a hole with a bar, and push in a cutting. I have been through large vineyards the last year or two and observed the miserable butchery going on till I turned away sick and disgusted.

Judge Stanly stated at the Grape Growers' meeting on Saturday at Napa, that he had examined the grafting done by my men in his vineyard last year, and that the "union was perfect." It could not be otherwise if done with the proper care, and by the "English cleft" method there can be no hollow or unhealed place in the stock, as must often be the case with the common wedge. Allow me to say here, as mercenary and other ulterior motives sometimes govern what is stated in public, that I am not angling for the job of grafting any vineyards; it is not my business, and I have no time to do it, and cannot, under any consideration whatever. The grafting of Judge Stanly's vineyard was owing to certain reasons, interesting none but the parties concerned. Neither am I grafting, nor do I intend to graft any vines in the nursery to sell.

It always has seemed to me a pity that "viticulture" and "horticulture" were separated in California; the former is but a branch of the latter, and we, the fruit growers, would like to have amongst us the vigorous and practical minds of Mr. Wetmore and his colleagues. If the interests of the grape grower and the fruit grower were one, and both bodies were united, how much more power would they wield in the Legislature, on the Tariff question, markets, freight rates, and a hundred other questions of vital importance.

I have before stated, on several occasions, that I believed the best and cheapest method of getting a vineyard on resistant stock was to plant the cuttings or seedlings in nursery, giving them ample room, graft them where they stand in one year, let them remain there another year, and then

transplant to the vineyard. I still adhere to this opinion. The objection that the vines, being two years old, will not bear transplanting well, and will make but a poor growth in the vineyard, will not hold good. Is a vine different from a tree or shrub otherwise than in its trailing habit? It might as well be argued that an apple seedling, or a Myrobalan plum cutting should be planted in the orchard, and grafted there, instead of it being done in the nursery, and transplanted with good roots, and with the union complete, to where it is to remain permanently. Why is it that the practice is to cut off the roots of a one year old grape cutting before planting it in the vineyard? The general answer would be, "because it will grow better, and throw out more vigorous roots." Why is this so? Theoretically it cannot be right. The simple reason is because the fine roots on a one year old vine are always either dried, bruised, or otherwise injured, and, as such, it becomes necessary to cut them off to allow new roots to start. Nature certainly never caused roots to grow for a year simply to have them cut off. The roots on a two year old vine will be stronger and more woody; the vines can be dug quickly and well with a small sized two-horse tree digger, and planted in the vineyard with a spade as one would plant a tree. There are some gentlemen in Solano county, who have planted in nursery 100,000 resistant cuttings, intending to follow out this plan. Results will doubtless be published.

One other point, which may be of use to some of your readers, concerning the preparing of resistant, or other cuttings, for planting. A bundle of grape cuttings, because it roots easily, and costs little, is subject to fearful abuse. It is sent from one end of the State to another with no protection save a piece of bals rope. If the cuttings are rooted, it sometimes happens that the careful viticulturist ties a little burlap, perhaps even with the addition of some straw, at one end of the bundle. Allow me to suggest, that if the cuttings are packed, as trees are generally packed in California, in the tule that is so plentiful in the marsh lands, one prolific source of failure would be removed.

Cuttings should always be made before the middle of January, in this climate; or, in other words, in their most dormant state. The theory of horticulture will show the great importance of this practice. If they

are trenched in the usual way, they will be all right until about the first or middle of February, according to the season. If it is desirable or necessary to keep them for a month or two longer before planting, they should now be taken up, tied in bunches of 250, 500, or 1,000, and placed, tops down, in a trench, so that the butt ends are about level with the surface of the ground. The trenches should then be filled up with moist fine earth, around the bundles, and the butts covered about six inches. The result will be that the warmth of the sun will tend to draw the sap towards the butt end, causing a callous to form, and roots to start, while the buds at the top of the cutting will not have opened—the reverse condition of that in which cuttings are frequently in, when planted. It would be better to cover with sand, as it is fine, and will fall through the bundles, and will not hold too much moisture around the cuttings. I have followed this plan this season with California cuttings, generally rather difficult to root. At this writing (March 31st) almost every cutting has thrown out roots at the base, or calloused over, while not a bud in the cuttings has started. LEONARD COATES, Napa, Cal.

Santa Clara County.

Mr. J. T. Doyle, who is grafting his vines with choice Bordeaux varieties, is doing most conscientious and systematic work. Of the wines sampled, the three-year-old Charbono and Malbeck, made only for blending purposes, show themselves excellent for coloring blends and prove the success of some of Mr. Doyle's experimental work. A port of Mr. Merithew's was very fine. Last year this part of Santa Clara valley produced wine that maintained its good qualities, while the grapes in most other parts of the State suffered from lack of sugar. The scarcity of fog and proximity to the ocean make this District very similar to that which produces the Bordeaux varieties, the temperature being, if anything, even better. The wines made there last year prove what can be done, as they compare favorably with those imported. It almost seems a pity to devote the land to orchards while the vines would succeed so admirably. The fruit, however, is also of a fine quality. Some Navel oranges grown on the place of T. H. McCullagh, are of a delicious flavor and sweetness and compare favorably with Riverside oranges.

RAISINS.

Discussion on the Merits of the Sun-Dried and Machine-Dried.

[From the Report of the Third Annual Viticultural Convention.]

Mr. Wetmore.—We should discuss the relative advantages of artificial and sun dried fruit which of course all turn on the merits of production and cheapness of the goods, and anything that can be said in that interest we shall be glad to hear. What have you to say in behalf of the Schmolz Dryer, Mr. Hatch.

Mr. A. J. Hatch.—I have to say that Dr. Blatchly has been engaged in putting up these dryers and he can probably make a statement on that subject better than anyone else and be much better prepared to speak on the merits of the dryer than I am.

Dr. W. C. Blatchly.—I have just returned from Fresno where I have had a dryer in operation for some time and I did not expect that I would get down in time to attend this Convention, and I have therefore nothing prepared. I cannot at this time give any full account of its operations but I can give generally what it will do and approximate the cost. You see the samples of raisins manufactured by it. You notice that it gives a fine fruit, and the flavor of the fruit is the same as when dried in the sun only a little more fruity. It has also the advantage of drying both sides alike, and the color of the raisin is alike on both sides. It has also the advantage of drying earlier in the season. You can take the dryer and in three days from the time you put your raisins in you can have raisins ready for the market; another advantage is that in a season when it is damp, when the weather is somewhat unfavorable, it is of some advantage to dry grapes. In Fresno we have what we call the second and third grapes. The second crop they will get in if the season is good but the third is lost; but with the assistance of the dryer they can get it. The cost of the dryer is greater than drying by the sun. It makes perhaps a cent a pound difference. This dryer that we have put up will not give a correct idea of the cost for this was put up as an experiment, for the operation of drying and making raisins in the dryer is somewhat complex and it takes some time to learn it. When you have a machine there are many parts about it, you may construct it but still you have to learn to handle it. A man may make a fine steam engine but still he has to learn to run it. That is what we have to do with the dryer. The raisins that you have here are ordinary commercial samples, a fair sample of the work that it does, and have not been selected for the purpose.

Mr. Wetmore.—Were both samples prepared by you or by some other persons?

Dr. Blatchly.—The samples were dried under my direction. I managed the dryer when they were drying in Miss Austin's vineyard in Fresno but the packing and sweating is something I did not attend to. After the raisins were dried I saw them put into the sweat box, but I had nothing to do with it. I saw them do it but not under my direct supervision.

Mr. Wetmore.—Some of those samples seem to vary, were any of them partially sun dried before they were put in the dryer?

Dr. Blatchly.—I think not, of the samples sent here. In Miss Austin's vineyard the growth this year was very heavy, and the crop was late and a portion was partially dried in the sun and finished in the dryer, but those that are put up as coming from the dryer I suppose were dried entirely by the dryer. By drying in the dryer entirely you can get a more uniform article than drying partially in the sun and partially in the dryer. In the dryer you can regulate the amount of heat that you find by practice to be the best and you can hold it there, and in that manner the raisins will dry much more quickly than when they are dried in the sun, and no trouble about moisture arising from the earth.

Mr. Wetmore.—There seems to be a positive difference of samples between what Miss Austin has sent from the Schmolz process and the sample that you have sent us from the Schmolz company. There is a difference, what is the reason of it?

Dr. Blatchly.—There may be some difference in the grape. But what is the difference to which you allude?

Mr. Wetmore.—One of them is very juicy and sweet, the sample sent by the Schmolz company and one by Miss Austin which seems to have less flavor, less sugar and seems to be more pasty and solid.

Dr. Blatchly.—That probably is owing to the nature of the grapes. Miss Austin has sold the first crop and that invariably I believe makes the best raisins. You received, I think, a sample not very long ago.

Mr. Wetmore.—Yes, very recently.

Dr. Blatchly.—I think these must have been taken from the last lot of grapes because the first crop was shipped to the city here and sold as fast as they could be picked, and I think probably when she sent these down only the third crop remained and they perhaps a little less sugary than the others and more acid, and perhaps they are somewhat smaller.

Mr. Wetmore.—They are very large, they are very pulpy, but they lack sweetness and flavor.

Dr. Blatchly.—That is all owing to the grapes from which they are made. Those first ones that you saw were made from the first grapes and I think in point of flavor, sweetness and juice they will compare favorably with any that are made by any process.

Mr. Wetmore.—Have you prepared any samples that have been partially sundried and then finished in the dryer?

Dr. Blatchly.—No, I have not any samples of that kind. That would turn also on this that if they are exposed for any length of time to the sun they take on the characteristics of sun dried raisins. They have the circular wrinkle on the bottom and flat sides, they have the redness and the color, and the finishing in the dryer does not make any difference. The flavor and the color does not make any difference.

Mr. Wetmore.—What objection is there to the flavor of the sun dried raisins?

Dr. Blatchly.—The objection is that the flavor is a mere matter of taste. One person prefers one taste and another person another. There was a gentleman came around where I was at work. He tasted all the samples and was not satisfied; I asked him if he wanted something more tart and he said yes, and I got some that were picked when they were green and still had a strong acid flavor and he said that was just what he was looking for. Sun dried raisins are sometimes not perfect. Occasionally you will find some of them with a Muscat flavor after they are perfectly dried. That to my taste is quite as satisfactory as anything I ever tasted but may not be to others.

Mr. Wetmore.—You speak of sun dried raisins as objectionable; what is there in the sun dried flavor that is objectionable?

Dr. Blatchly.—To describe two flavors when they closely resemble each other in words that will convey a meaning to others in words that will convey a meaning to others is a very difficult task. If you have the two and taste one and then the other they can be better understood.

Mr. Wetmore.—That is what I propose, at the close of this session, to have the different flavors tested. I believe the impression prevails that the sun dried raisin is the best for flavor. If there is any reason to the contrary I would like to know it.

Dr. Blatchly.—I think a good many persons who are in the raisin business, but who have not any knowledge on this subject prefer the raisin dried in the shade, but there are some who prefer the flavor of the sun dried. The sun dried has a different flavor from the machine dried just as a sun dried apple has a different flavor from a machine dried apple, or a sun dried apricot from a machine dried apricot.

Mr. Wetmore.—Have you ever investigated this question, and it is one that is at the bottom of this whole dispute, for it really is a dispute—there are advocates on both sides of this question—what is the purpose in curing a raisin? Is it simply a desiccation of the fruit, or do you accomplish something beyond simply getting rid of certain surplus water?

Dr. Blatchly.—I suppose you are aware of the changes that take place in the manufacture of grapes into raisins. That chemically the two are not the same. One of the most important points chemically is that the raisin will keep, you can transport

it around, but the grape will not. The condition of the juice in the grape is such that it will not keep. But when it is dried and in the process of drying a chemical change takes place at a certain point and after that is effected the raisin will keep, and until that change is effected it will not. Any one who is accustomed to handling raisins can tell by feeling, or looking, or tasting certainly, the raisin that will keep and the one that will not.

Mr. Wetmore.—Is this simply the result of desiccation or has a change taken place in the substance of the raisin.

Dr. Blatchly.—What do you mean by desiccation? Simply the absorption of moisture?

Mr. Wetmore.—I mean evaporation.

Dr. Blatchly.—What is the difference between evaporation and absorption of the moisture by the atmosphere?

Mr. Wetmore.—The same thing. But has any other change taken place by either process?

Dr. Blatchly.—Most certainly there has and it takes place in each alike. After it gets to a certain point the juice of the grape becomes a jelly, and when you break it open you can feel it, and you may then squeeze it but it will not exclude water.

Mr. Wetmore.—I know all about the juices of the grape becoming firmer and the inability to squeeze water out of them, but does any other chemical change take place than that which is merely the result of evaporation or absorption?

Dr. Blatchly.—I thought I had already answered that there does, but I will answer you plainly, yes.

Mr. Wetmore. I was trying to find out whether that was the case. Is there any information on the subject as to what produces that change and what are the necessities of producing it? What conditions are a necessity to produce this change in the composition of the raisin?

Dr. Blatchly.—First a necessary warmth to make the moisture exhale from the grape and the immediate transfer of that moisture from the grape to the air. These are the two conditions necessary.

Mr. Wetmore.—There is only one way to demonstrate that I presume, that is in the result.

Dr. Blatchly.—It can only be demonstrated in the result. The same agencies are employed in sun drying and machine drying, except the one of light. It does not enter so much as a factor in drying as it does in sun drying.

Query (by a delegate).—When you speak about adjusting the heat and keeping it at what you find is most suitable what degree have you found to be the best?

Dr. Blatchly.—I find about 115 degrees the best. That will perhaps produce the best results.

Query.—If you find 115 will produce the best results have you so adjusted your dryer so that you can keep all parts of it at a uniform heat; that part furthest away from the fire at a uniform heat with that nearest to the fire?

Dr. Blatchly.—Yes, but when I speak of best results I am speaking of the cost and time as well as quality; but I do not know any difference in quality whether they are dried as quickly as we can dry them or whether they are dried slowly. In this dryer the shortest time in which you can dry them is three days and the longest time we have had them in the dryer is seven to eight days and I have never noticed any difference in the quality.

Query.—Those that are in the end furthest away from the point of heat were equally as well cured as those in the front and vice versa?

Dr. Blatchly.—Equally as good, I could discover no difference in appearance, form or wrinkle.

Mr. Wetmore.—Have you ever made any experiments side by side with the same grape, one sun dried and one dryer dried, knowing them to be the same grape?

Dr. Blatchly.—As near as possible, knowing them to be picked from the same vineyard, from the same vine. Some of them were dried in the dryer and some in the sun.

Mr. Wetmore.—Have we any specimens of them here?

Dr. Blatchly.—I think we have some of the dryer dried here, and at the office I think you have some that were made on trays.

Mr. Wetmore.—I mean those made side by side as a test of the merits.

Dr. Blatchly.—Yes as a test of the merits.

Mr. A. J. Hatch.—There are some specimens made from the same vineyard, the same vine, the same grape, one sun dried and the other dryer dried placed side by side. I would like to exhibit them, I would like to have you look at them and see the difference in color and in weight and in general appearance.

Mr. Wetmore.—All these exhibits are in the hands of the raisin Committee and will be properly exhibited.

Mr. Hatch.—There are some that are from the same vineyard and the same vines. I brought them here on purpose that people might examine them and see the difference between the two, sun dried and dryer dried.

Mr. Wetmore.—They are entirely dried by the dryer are they?

Mr. Hatch.—Yes, sir.

Mr. Wetmore.—Did they come from Miss Austin?

Mr. Hatch. Yes, sir.

Mr. Wetmore.—I am sorry that Miss Austin is not here for she has exhibited a sample that is totally different from the others. There are two samples, one that you exhibit from the Schmolz Company and one that she exhibits. They are altogether different.

Mr. Hatch.—The reason of that is that one of the boxes that you see from Miss Austin is dried a little harder than the others, and I heard that it was from the third crop.

Mr. Wetmore.—I think I will write to Miss Austin and ask for an explanation of her exhibit. We have done so to others, when we have received exhibits from them without any explanation.

Query (by a delegate).—Another question naturally follows Mr. Hatch, and that is the cost of your machine?

Mr. Hatch.—As to that it depends on the requirements. We can build these dryers to dry from one ton to 100 tons at a charge, at a cost from \$600 to \$20,000. Of course it requires large works to construct a dryer that will dry 100 tons at a time.

Query.—What would be the capacity of one costing \$600?

Mr. Hatch.—About three tons.

Mr. Wetmore.—This question still remains open. There are other drying processes. If there are any principles involved in the method of drying, different from the Schmolz process, that any of you desire to discuss the question is still open. Professor Hilgard, have you any observations to make as to the relative merits of drying with a dryer and drying in the sun?

Professor Hilgard.—I have for some years past examined raisins, sun dried and dried in the various driers, and when those of the Holden dryer were first put up I concluded that it was an utterly worthless process for those raisins had been cooked. The high temperature used in the Holden dryer produced the same effect as if the fruit had first been baked and then dried, it was utterly useless. I consider that there is an essential difference between the sun dried and the machine dried raisins, produced by the fact that one is continuously dried and the other interruptedly dried. That naturally would make a difference in the chemical process going on in the raisins. No doubt there are chemical processes going on during drying which are varied according to the temperature. Everything depends on the temperature. In Fresno on a hot day the temperature at which the raisins are dried fluctuates between 110 and 115 degrees and I understand that 115 degrees is what the temperature was in the Schmolz dryer when the fruit were dried. That point is evidently rationally the best. The difference is that one has been dried interruptedly and the other continuously. The interrupted drying would give rise to some chemical changes that would not occur in the other. And as the sun dried raisin of Malaga is the type by which we go there will have to be some change in the dryer dried raisins to make them similar to the Malaga. We want to make the qualities as near like that as possible for the market demands it. I am not ready to say that the dryer dried raisin intrinsically—if a man should fall from the moon—is not as good as the other, but the market demands sun dried, and I think this will only be the

quality required for some time. The very fact that in the dryer it has been kept at the same temperature, and has never had any interruption, will make a difference. And the difference will go to make it less cured, so to speak, than the other. To define what I mean I will instance the production of hay. Every hay maker knows that there is a difference between dried grass and hay. Hay properly made is dried just a little and then put in the winrow or in cocks and then allowed to undergo a process of sweating, and that process of sweating is what gives it the agreeable flavor which leads the cow to eat the whole of it, while eating but little of the sun dried hay. There is also the same difference in other articles. The sweating process in raisins is seemingly analogous. In sun dried raisins it is usually said that the sun dried process consists in equalizing the moisture. That the over dried and the half dried equalize the moisture between them, but that is not all. The raisin in the sun undergoes a degree of heat that is quite analogous to that in the dryer and up to a certain point does the raisin good and then it depreciates again. I suppose that such differences will exist inevitably between the sun dried and the dryer dried raisins. But to my eye no sun dried raisin that I have seen in California, is so good as the dryer dried. And it is evidently worth while our seeing whether this dryer dried raisin will not become as good in time as the others. There is an advantage in making raisins everywhere in this country instead of in just a few certain spots.

Mr. Wetmore.—Do you make that remark after examining these samples of sun dried sent by Mr. McPherson and others; do you make that distinction between the sun dried and the artificial dried after examining samples on exhibit?

Professor Hilgard—I make it from the result of observations of my own in Fresno where I gave it a pretty close study. Some time since I was sent down there by the Commission and took the opportunity of visiting the establishment where the dryer was at work under the management of Dr. Blatchly, and I made a pretty close observation of the raisins right on the spot. I tested some sun dried and some dryer dried, and, not being the man from the moon, I could not tell which I liked best. The sun dried tasted to me on the whole more like true raisins, but I am not prepared to say, if given a little age, the others will not be quite as good. The advantage I see in the Schmolz dryer over other dryers that have been heretofore used is in the greatest rapidity of the passage of the air over it. Take any other dryer and stand at a point where the evaporation passes into the outer air and hold the hand to the aperture and there will be a sensible moisture. Standing before the Schmolz dryer with 20 tons of raisins in it I could feel that the air was pretty warm but did not feel any moisture like that coming from the other dryers. The temperature is pretty evenly maintained throughout, it cannot be absolutely so but there is a rapid circulation.

Mr. Wetmore.—Dr. Blatchly has remarked that the elementary difference between the sun dried and other dried raisins is the absence of light. In vegetable and animal organism we know that light is necessary to produce certain changes. That is a point that has not been elucidated. I have this in my mind, I do not know whether I am correct, but it is for the purpose of gaining information that I make these questions, that we may all be benefitted; is there any process going on in the sun dried raisin which produces chemically, according to fixed natural laws, a different result from that which goes on in the raisin dried in the dryer by nothing but artificial heat and radiation, simply evaporation? There is certainly a difference in the flavor, I am able readily to perceive it where I know that the raisins from the beginning *ab initio*, are dried in the dryer. Now I confess there is a great confusion to-day. We have started in to discuss dried raisins and we are confused by the samples we have received. We do not know whether they are partially or wholly dried in the dryer. We have received no positive information on that subject and I shall leave here to-day in doubt as to whether they are partially or wholly dried in the dryer. The only way I see to arrive at a solution of the difficulty is to write to Miss Austin and get

the information from her. [N. B.—This discussion arose from the fact that the agent of the Schmolz dryer at first showed samples marked, partially dried in the sun, which were preferred to those marked wholly dried by the machine, and afterwards changed the marks, leaving the question of authenticity in doubt.—C. A. WETMORE.]

Dr. Blatchly.—These samples which came here are supposed to be entirely dried in the dryer and unless some accident has happened by which they have got mixed they are entirely dried in the dryer. As to the properties of the light in effecting certain changes that is correct. I notice in the raisins that are exposed to the sun that the skin is thicker than those that are dried in the dryer. The longer it is exposed the thicker the skin becomes. In that you will find that there is quite a difference between those dried in the dryer and those exposed to the light.

Mr. Wetmore.—That does not seem to be the case in the imported raisins and I have received some from San Diego with a very thin skin. I have not discovered that peculiarity.

Dr. Blatchly.—Did you ever see a grape made into a raisin and watched carefully from the time it was taken from the vine? I am not speaking about the thickness of the grape as it grows but I am speaking about the thickness of the skin in drying. Now when a grape is made into a raisin in the sun, and the sun is allowed to shine on it for any length of time and you then examine it you will find the upper side of the skin thicker than it is on the lower side. Not the grape but the raisin made from the grape.

Mr. Wetmore.—I mean that we have samples here of very thin skinned raisins that have been dried in the sun.

Mr. R. Jordan.—Do you recollect Dr. Blatchly whether the 18 boxes that Miss Austin sent here were wholly dried in the dryer?

Dr. Blatchly.—They were.

Mr. Jordan.—Then I can assure the audience that the 20-pound box on the table, coming from Miss Austin, is dryer dried.

Mr. A. J. Hatch.—I would like to show the difference in color between the sun dried and the dryer dried. There is as much difference in the color of these raisins as there is between the Alden dried apple and the sun dried apple.

Mr. McPherson.—And which of the two do you like best?

Mr. Hatch.—Of course I like the amber color, the dryer dried raisin. [Laughter.]

Mr. McPherson.—And I like the sun dried the best.

Mr. Byron Jackson.—In regard to the matter of cultivated taste, or what we call best because we have become accustomed to it, I will tell you my experience. I took a box of raisins to five different persons, two of them were commission merchants and the others were grocers and in each case these men knew of Miss Austin's vineyard and raisins and they told me that these raisins suited their taste better and they told me they believed they would stay in the market. That is, if they bought those raisins they could keep them next year if they could not find a market for them this year, which to them is quite an important feature. I have a sample of my raisins here and I thought they were very nice, and each of the men complimented me and said that I need not be ashamed of them, but they were made on trays and whether they were picked just as they ought to be or not I do not know. I did not attend to that part of the business personally myself. My brother managed that and I know he was very careful, very particular to have his raisins just right. But when you have to manage a dozen or two Chinamen and some other men, you are very well aware that they will pick some that are not right. Now I believe that this matter of taste is very much a matter of education as regards those that are dried on the ground and which we have been used to from our boyhood up and I think that if we dried our raisins by this process of Schmolz's or some other person who has experimented until he has made them just as he wants to, that we will soon get accustomed to the flavor. It is admitted that the ground has some effect upon the flavor and the interrupted drying will have some effect that I

am unable to explain, but undoubtedly it does have its effect. But take a new method, we may call it new as it has only been tried one year or so, I believe that if we are careful in this matter and pick the grapes with as much nicety as has been explained by Mr. West, pick them just when they are ripe, then put them in the dryer and keep them there for four or eight days just as they consider it best, I believe that if then we do not make just such a flavor as we have been used to we shall perhaps get as good or a better flavor. Then we have the advantage of the market. Then we need not make so many grades. In those countries where they have 15 cent labor they are divided into ten and a dozen grades. I do not think we need to divide it into more than three. As I say I did not superintend the picking and the drying of the grapes, but my brother wanted me to sell them, and when I tried to sell them I found I did not know even enough about raisins to sell them, so I went to the vineyard to find out enough to enable me to sell them and I there saw the men grading them and it reminded me very much of a story I heard of a man who was grading potatoes. Some one passing said to him that it must be very hard to keep at that work all day, to which the man replied that the work was not so hard "but it is a dreadful strain on my judgment." It seemed to be a dreadful strain on the judgment of these men to decide whether they wanted to put this berry or that berry in and the time was wholly consumed in the exercise of their judgment. Now I believe that they can be selected as well at the time they are picked as afterwards and can be put in the dryer as they are intended to be packed, that is when we have succeeded in making a dryer that will answer our purpose by which we can make a marketable raisin without such a trying exercise of judgment or in other words, doing nothing. This was our first crop, we were novices in the matter and the bunches were not so uniform and in such thick clusters as some I see here. They had been grown in Yolo County without irrigation, but our vines had been well irrigated the first year when they had been put in, and we had a fine crop, as we thought. They are probably full of water for all I know but the bunch was scraggy. I could take the shears and clip off a few outside stems and it would look to my eyes much better. But I think that to grade raisins into three classes would be quite sufficient; those that are nice fine clusters, a second quality, and then a third quality of the small seedless raisins. I think that three kinds are all that we need in this market. The people are not so fastidious here as in those older countries, we have not an aristocracy here.

Mr. Wetmore.—You must not forget however that we have to go to their markets.

Mr. Jackson.—I do not expect that, I expect to sell them in the United States.

Mr. Wetmore.—That is what I mean.

Mr. Jackson.—I mean that this country is not so old as their country and our people have not been educated in just the same way. We have no aristocrats that want a very high class of goods. Of course we have a few who want a very choice article for which they are willing to pay and for which we can charge them. This method can be worked up and our taste educated to it, and if we cannot have a London Layer, we can have an American Layer, or perhaps a California Layer which is better still. If we cannot have the same we can have just as good and that is what I am getting at. If we cannot get them on the market we can perhaps put them up cheaply and send them into the mountains and mines where they can stew them and eat them with a spoon the same as they do prunes instead of on the table as dessert, and I think in that way we will perhaps make just as much money. Our raisins cost us 75 cents a box to make them besides the cost of the grape, which is 60 cents. It costs more to make the raisins than it does for the grape itself. I think we can put them on the market when they are dryer dried, and the people will use them in place of our having dried them in the dust and dirt, and being afraid, as one gentleman has explained, of having them spattered with mud.

Mr. Wetmore.—Is the purpose of your remarks to advise the growers to abandon drying in the sun and to dry in the dryer?

Mr. Jackson.—My idea is to work up the matter and see if it can be done.

Mr. Wetmore.—It can be done, we have samples here before us.

Mr. Jackson.—As I have already said, I started out with the raisins and saw four or five gentlemen, each of whom preferred Miss Austin's dryer dried raisin.

Mr. Wetmore.—That was in Fresno?

Mr. Jackson.—No sir, in this city, one was Mr. Meade, who said he thought he preferred Miss Austin's, and one reason was that he could keep them, and he was a little doubtful about ours. Another was a retailer who said the Fresno raisins were preferable and he had them side by side. He said he took them in preference. We took a specimen box, something of a bon bon box to a dealer but he said it was too large, he wanted something to sell at two bits, he did not care about the quantity of the grapes but he wanted something he could sell at two or four bits, for which ours were too large, as there were at least three pounds in them. We will have to sell them therefore in the 20-pound boxes.

Mr. Wetmore.—Then the moral is that we should abandon drying in the sun?

Mr. Jackson.—We should investigate. This is the fact in this particular case. I saw these gentlemen were alone in their advocacy of the fruit dryer and I have simply stated what was my experience. The specimens we have here I think are very fair specimens. They are not so bad certainly as some I saw from a larger vineyard. I spoke to the party about it. They had been dried on trays, but they had been dried in the dust, and I know they were dusty for every raisin I picked up and bit grated in the teeth, and I did not exactly favor it, I did not like to see them going to the market. They were going, and they were called California raisins. My brother and I were very particular as to what we were going to send to market to be represented as California raisins, but when we went to the market ours were pointed out as the cheap ones and Miss Austin's as the good ones. I could give the names of the dealers, who are all first class men.

Mr. Wetmore.—I have put in a sample box of sun dried raisins to show their keeping qualities. They have been in our office for a year. They were dried in the sun and are in good condition.

Mr. Jackson.—I would like to ask some of the gentlemen who have noticed my raisins to further notice them and tell me whether there is any danger of their spoiling.

Mr. Wetmore.—I would like to get at something definite. Mr. McPherson and Mr. White both are drying in the sun and I would like to ask them if they desire to change their process.

Professor Hilgard.—I would like to make a remark upon the question that has been started as to the thickness of the skin, as that is called, of a raisin dried in the sun as compared with a raisin dried in the dryer. It is not the thickness of the skin exactly, it is one of the differences induced by that very interruption, namely, each time that the raisin cools down a little of the grape sugar which has become too much for the sap to hold becomes solid, crystallizes under the walls of the grape, and that stiffens the wall and therefore the grape appears to have a thick skin. Now when it is dryer dried without the interruption that condition does not occur at all. They are dried as thoroughly, but they are not crystallized, there is not so much sugar coming out. The difference is a real one. In the sun dried raisin the sugar crystallizes on the outside and seems to thicken it. In the one the sugar is crystallized at once and the other in little dribbles. Therefore they will never be alike in that respect. One has the grape sugar crystallized throughout and the other under the skin. I do not know that it can be avoided, neither do I know that the dryer dried raisins are any worse for it. As the gentleman has said there is such a thing as making a taste. And when it comes to California taste I do not know why we should not make it. When it comes to wine we will have to make it for it will have to go into the market without being a Chateau Lafite and I do not see why we should not make a taste for raisins.

Mr. McPherson.—I do not see that it is necessary for us to educate our tastes for we can dry in the sun and have to educate no one's tastes.

A FEW SUGGESTIONS AND CRITICISMS.

EDITOR MERCHANT: In your valuable paper of March 27th I find, under the head of "Viticultural Movements," the following: "The chief problem at the present time is, how to manage the vintages of the country so as to prevent undue competition among producers, and to enable them to properly meet the markets for matured wines." In my humble opinion, competition is the life of trade, and the more we can raise of honest and fair competition, which means at the same time and aims at higher excellence of product, the better it will be for our young industry. Every competitor works with the idea, whether mistaken or not, that he has something, or can produce something better than everybody else; it is just this spirit which we need, and which we ought to encourage. It seems to me that it should rather be the aim of the State Viticultural Commission to foster this spirit of competition and emulation than to seek to injure it, and that also one of its main objects should be to create a market for our products, instead of providing for such a market when it seeks us, which will very likely not be so very soon, unless we do more to attract the attention of consumers and dealers than has been done lately. Had the Commission, after securing their appropriation, sent a good man to New Orleans, to show and talk up our wines, or at least suggested such a movement to our wine-growers and dealers, they could have done more to make a market for our wines, than twenty meetings and social confabs at San Francisco will accomplish. We want to show people what we can do, prove to them that our wines are drinkable, and this we cannot do by sitting at home and discussing the matter. People nowadays want proofs which appeal to their senses before they believe; they want to know us by our fruits rather than by our words. Seeing and tasting good wine is convincing; mere moody discussions and assertions are not.

Again, in the same article, I find "the Commissioner of the district, who is Mr. Wetmore, says that he intends to provide that one day during the district convention shall be devoted exclusively to discussions in the French language, in order to permit a large number of gentlemen who are not familiar with nor at home in discussions conducted in English, to participate in the work which has been projected, etc." I sincerely hope that Mr. Wetmore will reconsider this intention, as it would either take up a whole week in discussion in foreign languages, or give rise to innumerable jealousies and bickerings, where all should work harmoniously. While I entertain the highest regard and respect for the opinions of these French gentlemen, yet we cannot deny that there are other nationalities, other than French and Americans, who would be entitled to the same consideration. I think the German element has done as much, or more than the French, to develop and foster the wine industry of California, and therefore could justly claim a day, although perhaps only included in the "other languages" mentioned. Our Italian, Portuguese and Spanish friends might claim the same privilege, and the foreign element thus consume the whole time of the meeting.

It seems to me that we are in America, where the English vernacular is the one that is used at all meetings which have a general object, and although foreign born myself, and as I think justly proud of be-

longing by descent to one of the greatest nations on earth, I cannot see the propriety or the justice of using any but the English language at meetings which concern us all. Would the French, with all the politeness which is said to characterize the "Grand Nation," as they call themselves, accord Americans the same privileges under the same circumstances? I venture to say, no! and they would be right. We are all American citizens, and as such ought to conform to the usages of our adopted country, learn to speak and write its language and not ask any more than to be understood and heard by and through it. If we loose some counsel thereby it cannot be helped; and if given in French it would only benefit the few who, like Mr. Wetmore, are thoroughly conversant with that language, while it would offend our native element and be unfair towards other nationalities.

Again, I find in your last issue: "The work that will be conducted jointly with the State University cannot be arranged definitely without knowledge of the persons who will be charged with it; as Professor Hilgard is at present a candidate for the office of Commissioner of Agriculture at Washington, his connection with this service remains in doubt." I am glad to be able to dispel this doubt, provided Professor Hilgard consents to remain in a position from which he could not be spared without great loss to the State and its agricultural interests. In the first days of this month President Cleveland appointed Colonel Norman J. Colman of Missouri as Commissioner of Agriculture, a gentleman with whom I have been intimately acquainted for thirty years, who has conducted an agricultural paper for thirty-five years, who has the advancement of agriculture in all its branches and throughout the country thoroughly at heart. It is a good choice and a lucky one for us Californians, for while I think that I only repeat the general opinion about the eminent qualifications of Professor Hilgard for any position connected with agriculture, we cannot spare him from this State. We need him here, we know him, and know what he is worth in theory and practice; we know what he and his able assistants have accomplished with the scanty means at their command, we are aware of the eminent services that laboratory has done to the wine interests of the State, and we cannot afford to see it in other hands. The resolution passed at the last meeting at San Francisco had nothing uncertain in it; they endorsed the usefulness of their labors, and asked for an appropriation to meet their wants. The wine-growers of this State, by these resolutions, acknowledged Professor Hilgard as the man to conduct it; he has never indicated that he would abandon the work so well begun; and I think I echo but the wish of the overwhelming majority of viticulturists when I say that it cannot be left in better hands. We have tried him and not found him wanting, and until he himself retires from it (of which we as yet have no intimation), we wish to retain him there and have absolute control of it, as expressed in the resolution.

I hope that these few remarks will be taken in the spirit in which they are offered, not of captious criticism, but merely suggestions for the good of the cause dear to us all, and which is destined to be the leading interest of the State, which we proudly call the "Golden."

GEORGE HUSMANN,

Talcoo Vineyards, Napa, April 13, 1885.

A FEW ADDITIONAL SUGGESTIONS AND CRITICISMS.

We publish Mr. Husmann's letter in full, though we by no means agree with all his opinions expressed therein. The wine industry of California being, as yet, in its infancy, it is in our opinion rather the duty of the Commission to instruct grape growers and wine makers as to their existing requirements, than attempt to open up foreign markets for wines that we must all concede are not now equal to those of France. The first thing to be done is to teach, having accomplished this successfully, the result will be good wines which can compete with those of older countries. There are but few men now engaged in the industry of California who can boast of 30 or 40 years experience, and perfection. The present appropriation of the Commission is barely sufficient to pay ordinary current expenses till July, when the larger appropriation will be available. The Commission had no money to expend in sending a collection of wines to New Orleans, but, by issuing pamphlets, has endeavored to achieve some beneficial results for the viticultural industry. In future, however, it is the intention of the Commission to attempt to extend and increase the markets for California wines. This cannot be done until the larger appropriation is available.

The idea of devoting an entire day, at the San Jose district Convention next month, to discussions in French is an experiment and one well worth trying. Should it be successful, then we trust that a day will be set apart at future Conventions for discussions in German, Italian or Spanish. There are many grape growers in all parts of the State who have obtained experience in wine making in Europe, and who have but recently settled here. They are unable to speak English thoroughly, and are consequently rather timid in participating in debates. Yet it is of importance to learn their opinions and ideas as based upon their experience obtained in this climate. Moreover, there are newspapers published in the languages of Italy, France, Spain and Germany, and it is to be hoped that the foreign press will report and circulate, for the benefit of their readers, full particulars of the proceedings. We decline to admit that any one nation has done more for the cause of viticulture than any other nation. All are working together in one good cause. Mr. Husmann's sneer at the French is most unjustifiable and uncalled for. The title of "La Grande Nation" was given to France by others who appreciated their politeness as well as their energy. We have no hesitation whatever in asserting that under similar circumstances, when all are trying to learn, the French would gladly offer facilities to Americans either to help them or learn from them. We have met and known intimately many French gentlemen in different parts of the world, and always found them courteous and obliging to an unusual degree. The idea of having a day's discussion, in French, at the San Jose District Convention where a large number of the grape growers and wine makers are French, or of French extraction, is an excellent one, and we know of no better locality where such an experiment could be made. If successful we trust that the same courtesy will be extended to other nationalities. The question of time—a day or two—should be no consideration in such an important matter, where all have so much to learn. In Sonoma and Napa counties there are many Germans engaged in viticulture and it would only be a matter of

courtesy to extend the same privileges for discussion to them. When this is done we do not think that the French will offer any objection. Though we are in America, we should not forget the courtesy due to others.

We are pleased to agree with Mr. Husmann on the point that we shall retain Professor Hilgard's services in the State, even while regretting his loss of a higher and more important position. His loss is our gain. Mr. Husmann is in error, however, in stating that Professor Hilgard has "never indicated that he would abandon the work" as his application for the position of Commissioner of Agriculture at Washington is tolerably plain indication that he would have done so. We are glad, personally, and in the interests of the State, that he has been unsuccessful. We trust that Mr. Husmann will take our remarks not as "of captious criticism" but merely as "suggestions for the good of the cause."

[EDITOR S. F. MERCHANT.]

The Advantages of Grafted Vines.

EDITOR MERCHANT: I read with much interest the reports of Mr. Klee and Professor Hilgard in respect to the time when California, Riparia, Rupestris and Arizona, respectively, bloomed. I give my experience, as the subject is of importance especially to those who are planting in sections of the State exposed to late frosts:

I have two blocks of vines, one of Zinfandel grafted on Californicas, and one of Zinfandel on their own roots. They are growing on like soil, next to each other, with like exposure and slope and absolutely alike in all conditions. They were pruned at the same time and in no respect has the culture been different. At this writing the buds on the grafted vines are just swelling and some are yet hard, while the rooted Zinfandels have shoots from four to ten inches long. If a frost should now strike our section the advantage of the grafted vine is at once apparent. Again, about the first of March of this year, I planted Mataros, Riparias and Californicas. The first two are rooted cuttings, and the latter are seedlings. The Riparia started first, next the Mataros, while the buds of the Californicas are showing merely the faintest indications of swelling. For the warm foothills or frosty exposures I am persuaded that the California is the best stock of the first three named. I have had no experience with Arizonica. I planted this Spring cuttings and roots, which are now starting, but it is too early to predict success. For the past three years we have had no frosts in April in this section. We are studying the question of drought resisting qualities as, so far, irrigation is not practised.

E. W. MASLIN,

Loomis, Placer County, April 13, 1885.

TO WINE-MAKERS.

Every wine-maker should follow his grapes to the consumer, and aim at ultimate results, study the market prospects, and have some decided object in view, if he wishes to launch out permanently in the wine industry. Don't try to cultivate new tastes, but be satisfied with what the market at present demands, then plant the true varieties which make the good wines of France, and, if unsaleable here, the wines can be shipped to France where from 30 to 40 cents per gallon can be realized at a fair profit. In one hundred years from now we may possibly be able to teach the world something, but as yet we must be content to imitate.

STATE OF CALIFORNIA.

Board of State Viticultural Commissioners.

SAN FRANCISCO, April 19, 1885.

To the Local Resident Inspectors of the San Francisco Viticultural District.

As the Commissioner for this district, I have, after consulting with leading vine growers and wine makers, concluded to call a Convention to be held at San Jose during the latter part of this month of May if suitable accommodations can be procured for that time. The exact date will be made public later. The Convention will probably continue during three days and the subjects for discussion will be principally, Fermentation, Cellarage, and Facilities Required for Marketing Products. There will also be an effort made to procure papers to be used as records hereafter, or references, concerning the true history of the introduction of different varieties of vines in this district. Contributions on this subject are solicited. They should be brief and authentic. We need especially to discuss the immediate wants of our industry growing out of largely increased production.

As there are many people now engaged with us throughout the State who are not sufficiently familiar with the English language to participate freely in our meetings, it will be advisable in future from time to time to open discussions in foreign languages, especially in French, Italian, and German, so that we may not lose the opportunity of gathering information from all sources and also of imparting the same to many who are engaged in our work who need to be informed. For this reason and to test the practicability of such a plan, one day of the Convention at San Jose will be devoted to discussions in the French language, as there are many in this district who will be better

able to express their opinions and impart information in that way. At a future day, there will be a meeting called, probably to be held in San Francisco, for similar work in Italian, and probably one at some other point for like work in German. The press of the State which is published in these foreign languages will thus have an opportunity to increase our advantages by publishing reports of such meetings and whenever anything valuable and new is obtained, translations for the use of all may be easily made. Samples of viticultural products, tools for working and other things interesting to producers, will be received at this Convention as at all others, but it is not desirable that such exhibits should be made for purposes of competition. What is needed is material for instruction, comparison and study.

You are specially requested to make known in your localities the purposes of this Convention and to invite the active participation of as many as possible so that the greatest good may be accomplished. Due notice of the meeting will be made at the proper time, as soon as arrangements are perfected, through the press of the State. It is also desirable in all these district conventions that vine growers and dealers in all branches of our industry from other parts of the State should participate as much as possible so that whatever progress is made in one part may be of advantage to all others. An invitation is therefore generally extended to all persons throughout the State to attend this Convention as has been the practice during conventions of other districts. The counties comprising the San Francisco Viticultural District are as follows: San Francisco, San Mateo, Santa Clara, Alameda, Santa Cruz, Monterey and San Benito.

Yours respectfully,

CHARLES A. WETMORE,

Commissioner of the San Francisco Viticultural District.

OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO'S STR. SAN JOSE, APRIL 15, 1885.

TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
G. in diamond, New York	Lachman & Jacobi	35 barrels Wine	1732	785
E L, New York	"	15 barrels Wine	751	319
F A, New York	"	25 barrels Wine	1248	499
P L, New York	"	8 barrels Wine	398	181
L P, New York	"	25 barrels Wine	1242	496
Y S & B, Brooklyn	"	15 barrels Wine	745	316
E C, New York	"	10 barrels Wine	500	225
J B, Hoboken	"	5 barrels Wine	245	144
L, in diamond, New York	"	15 barrels Wine	745	298
E B & J, New York	"	50 barrels Wine	2322	821
T H L, Boston	"	2 barrels Wine	98	55
S B, Philadelphia	"	1 barrel Brandy	41	95
G B, Philadelphia	"	2 barrels Brandy	82	196
A S, Philadelphia	"	10 half puncheons Wloe	797	438
H W, Philadelphia	"	6 puncheons Wine	481	336
H D, New York	"	11 puncheons Wine	1382	488
J C, Washington	"	1 barrel Wine	96	67
"	"	2 barrels Wine	48	101
B D & Co., New York	B Dreyfus & Co.	1 puncheon Wine	6836	3070
"	"	145 barrels Wine		
"	"	5 half barrels Brandy	120	250
S, New York	"	50 barrels Wine	2456	1600
J C C & Co., New York	"	3 puncheons Wine	708	475
"	"	4 barrels Wine		
E S, Troy	"	2 puncheons Wine	337	250
W J H, Albany	"	10 barrels Wine	494	365
M M, Albany	"	6 barrels Wine	294	225
B B, New York	"	10 barrels Wine	481	180
W & T, Toledo	"	5 barrels Wine	247	200
H F, New York	"	10 barrels Wine	491	215
K & F, New York	Kohler & Frohling	135 barrels Wine	8223	4800
"	"	30 casks Wine		
F, in diamond, New York	S Lachman & Co.	25 barrels Wine	1175	472
C B, New York	"	25 barrels Wine	1180	474
B, in diamond, New York	"	25 barrels Wine	1185	505
R, in diamond, New York	"	5 barrels Wine	235	125
H, in diamond, New York	"	3 barrels Wine	235	170
"	"	3 barrels Brandy	129	290
K, in diamond, New York	"	10 barrels Wine	475	235
"	"	1 barrel Brandy	47	85
M, in diamond, New York	"	5 barrels Wine	240	145
Dr H O Tucker, Brooklyn	"	2 barrels Wine	95	120
Total amount of Wine			38169	\$19104
Total amount of Brandy			467	1019

TO CENTRAL AMERICA.

O M R, Guatemala	B Dreyfus & Co.	5 half barrels Wine	107	150
A V, La Libertad	John T Wright	4 half barrels Claret	95	80
R M L, Acapulca	"	2 kegs Wine	20	20
San Jose de Guatemala	Wilmerding & Co.	1 cask Sherry	22	66
F M, Corinto	Thannhauser & Co.	5 cases Wine	25	20
"	"	5 cases Whiskey		45
I D, San Juan del Sur	Eugene de Sabla & Co.	1 barrel Claret	33	15
R Q, San Jose de Guatemala	Urruela & Urioste	2 kegs Wine	40	40
Total amount of Wine			342	\$391
Total amount of Whiskey			58	45

TO MEXICO.

A D & Co., Acapulco	J Caire	1 barrel Wine	47	34
A B & Co., San Blas	Thannhauser & Co.	5 kegs Wine	80	72
A D & Co., Manzanillo	"	10 kegs Wine	160	101
Total amount of Wine			287	\$207

TO LIVERPOOL.

Otto Caspari	Walter, Schilling & Co	1 cask Wine	62	46
Liverpool	"	3 barrels Wine	140	105
Total amount of Wine			202	151

TO PANAMA.

D H S, Panama	Lilienthal & Co.	25 cases Whiskey		225
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MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	RIG.	GALLONS.	VALUE.
China	City of Peking	Steamer	130	\$193
Japan	City of Peking	Steamer	399	245
La Paz	Indiana	Schooner	47	29
Mexico	Newbern	Steamer	409	475
Apia	Percy Edward	Brig	100	65
Petropaulovsky	Alexander II	Steamer	1590	1551
Kahului	F. S. Thompson	Bark	68	61
Mazatlan	J. N. Ingalls	Schooner	545	321

AMPELOGRAPHY.

Varieties of Vins Known in California and Choice of Localities.

WINE, RAISIN, AND TABLE GRAPES

By C. A. WETMORE.

CHIEF EXECUTIVE VITICULTURAL OFFICER.

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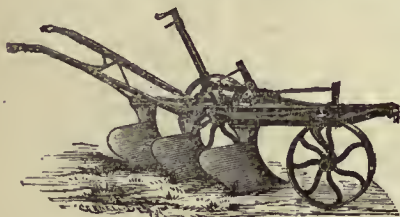
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3, 4, AND 5-PLOW GANG.

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WILL PAY FOR ITSELF IN A SINGLE SEASON.



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WHY USE SINGLE PLOWS, EACH REQUIRING one or two horses and one man, when the FARMER'S FRIEND, with two horses (in common soil) and one man will do the work of three Single Plows, and leave the ground in better condition? We claim the following points and advantages for this Plow over all other Plows:

1. Its superior work.
2. Being built low it does not interfere with the branches overhead, and is as easily handled around trees and vines as small single plows.
3. Its economy in the saving of Time, Labor and Horse flesh. It is exceedingly light of draft, two horses, in common soil, with this Plow, doing better work and more of it, with one man, than three horses and three men with three single plows. (We submit in proof of this assertion, testimonials, now in file in our office, from prominent orchardists of California.)

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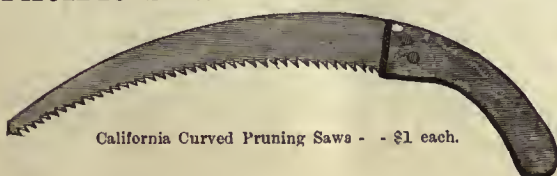
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RAISINS.

The Opinion of Merchants on the Culture, Packing and Sale of California Fruit.

[From the Report of the Third Annual Viticultural Convention.]

Mr. Frank S. Johnson.—The first intimation that I had that I would be called upon to say anything on this subject was this evening after dinner, and the little memorandum I have been able to prepare between now and half past six are very brief and cannot embrace the statistics I would like to present to you which I have at my office. In reference to the subject of sun-dried and artificially cured raisins I do not think that anyone who has watched the matter very carefully from a commercial point of view can have any doubt on the question as to the natural preference that would be extended to sun-dried raisins. I cannot speak for the manufacturers and growers. I do not think that any mechanism of man is equal to that of God, and I do not believe that artificial heat can be compared with natural heat in drying a raisin properly, any more than the good effect an invalid will receive from the warmth of the fire can be compared with the good effect he will receive from the warmth of the sun. In cloudy countries perhaps, where you cannot always get the sun, I can imagine that artificial dryers might be used as a necessary resort only, but in Fresno, where I have seen about the handsomest raisin that has been grown this year, where they have the sun during the whole of the packing season, I cannot imagine that anybody would care about using a dryer. I do not think that Miss Austin's raisins this year compare with the raisins of the previous year, though I believe she uses an artificial dryer. Our firm received a letter, which has been published in a number of papers here, from our agents in Chicago, which will give you an idea of how raisins should be packed and the difficulties which merchants meet in marketing your raisins. One of the great objections is that you pack 20 pounds net. The foreign raisin is packed 22 net. Instead of the merchants in the East making a difference of 10 per cent in prices on that account they make a difference of 15 per cent and more. I would not advise any of you in isolated cases to raise the weight of your raisins to 22 pounds without unanimity of action. For if a few of you should raise the weight to 22 pounds you probably would be able to get no more for your raisins than for those that are packed in 20 pound boxes, but there certainly ought to be a concerted effort on the part of all of you to make your raisins full weight. There is an objection to short weight goods of any kind, and I think it unfortunate that California should have commenced the raisin business packing in short weight packages. There should be an established grade without any doubt or question that you should pack to, a grade for layers and a grade for London layers. The principle that the strength of a chain is its weakest link can be applied to the raisin business. Raisins are probably sold 30 days before they are packed—at least that has been our custom—and we are obliged to base our prices, or the price of our best raisins generally upon the asking price of the poorer grade of raisins, for there are dealers here who will offer their raisins and guarantee them as good, but when they are shipped to the point of destination they do not turn out as well as anticipated. In the mean time we have to meet this competition, in the same manner as others, with our best raisins. I have been shown some raisin boxes lately that are graded as containing 20 pounds of raisins that would weigh one and three-fourths and one and a half pounds, being lighter than most other boxes. I think Mr. White has some of these boxes. I think it would be a good idea if you all packed your raisins in these light boxes, as you would save in freight about four and five cents a pound. There should be appointed by this society an official grader of raisins, with headquarters at Fresno, Riverside, and Woodland, which I believe are the acknowledged centers of raisin growing, with an official stamp of your society, whose duty it should be to stamp every box of layers and London layers that are up to

grade. I think in a short time this official grade would be recognized, and that the merchants would have no difficulty in selling these raisins to the exclusion of raisins that were not graded by your society and you would have an established price. The price of London layers in Boston to-day is about \$2.85 a box, the freight to Chicago is about ten cents, making \$2.95 laid down. Our raisins being 10 per cent less in weight would naturally realize about 20 cents less, that would be \$2.65 that we should get for California raisins laid down in Chicago. The highest price realized so far has been about \$2.35, and that is only in extreme cases for very well-known brands. This is on account of the want of grading, and until that evil is corrected you are going to have great difficulty in getting all that your raisins are worth. Raisins this year come in with a great deal of dirt, some dust, and careless packing, and a great deal of under-curing. These are all things that apply to the manufacturing portion of your business and I can only call your attention to them. There is another subject to which I shall call your attention, and in this I want to be distinctly understood as not making any appeal for the house of William T. Coleman & Co. There are other people who can handle raisins just as well as we can and get just as good prices. The importers of Boston found it necessary a few years ago, a state of affairs brought about by intense rivalry, to concentrate their holdings and sell their raisins through the medium of one broker, doing away with needless competition. We ought to be getting an extra price in San Francisco for all raisins sold for local consumption—that is, we should get a price based upon Boston and New York prices and the freight added. If the raisin growers of California could select one agent, be it George W. Meade & Co, Hixon, Justi & Co, or any other firm with proper distributive powers, and consign all your raisins to them, you would accomplish the same result. You seem to have no difficulty in meeting together for mutual protection and mutual information about growing your grapes and producing your raisins, but you have been giving away a large proportion of your profits in needless competition and you are continuing to do so. My opinion is that a proper combination on raisins in one hand, next year and in succeeding years, will without any doubt or question realize for you considerably more money. In closing I want to revert to the question of artificially cured raisins and sun dried raisins, and say that the best raisins I have seen this year were put up by Mr. White and Mr. McPherson, and these I understand were sun dried.

Mr. Wetmore.—There is possibly a doubt in the minds of many of our people as to how our raisins grade in comparison to foreign or imported goods. Do you find any considerable quantity of our productions that compare fairly with London layers?

Mr. Johnson.—Yes sir. Mr. White's and Mr. McPherson's raisins this year are better than imported raisins which I have seen. Miss Austin's are also better than imported. Furthermore, you have been putting your best grade of raisins into London layers, your second grade you have been putting into layers, and the refuse has generally gone into loose Moscatels. Now it is an astonishing fact to me that as long as you have been in the raisin business you do not know yet that a loose Moscatel raisin will sell in the Eastern States where layers will not sell. If I was a raisin producer I should pack my best raisins into London layers and I would strip the others and pack them in loose Moscatels and face them. I think in that way you would net 25 and 35 and 40 cents a box more. The people in the Eastern States want a bunch of raisins when they are fine, but when they get poorer they don't want to pay for a lot of stems. I have had raisins sent from Riverside and other southern portions of the State, and it seemed to me that from 10 to 15 per cent of the raisins were nothing but stems. The people in the Eastern States cannot be humbugged; they will not pay for stems.

In answer to questions Mr. Johnson said:—I do not think that the merchants should attend to the grading of the raisins, that is a matter for the producers. I do not think we should attempt to reform you; any conversion should come from within. If you pack good raisins we will buy good raisins,

but competition is so great amongst merchants that I doubt very much if merchants would undertake any reformation of that kind. When buying raisins the merchants generally look very carefully into it and buy nothing but good raisins or as nearly good as we can get, and pay a low price for poor raisins. You forget the fact that if not now, certainly in the future, two-thirds or three-fourths of the raisins of California will have to be marketed on commission, and when there is any prospect of the market being short, unless you take extra pains to ascertain ahead the condition of the market, the merchants are going to get the information first, and buy up the crop. They will then buy the best raisins and pay the proper price for them. If you consign your raisins in future for sale the people that produce the best raisins are going to suffer because they are going to get very little more than those who make poor raisins, for the raisins will be sold ahead without samples. I think we have too many grades at present. I would call the first grade something extra—Dehesia. I would have a London layer grade, a layer grade, and a Moscatel grade, and I would make my Moscatels of just as good fruit as possible instead of the refuse, and I would then have a dried grape grade, or what I think would be better still a grade to throw away. The loose Moscatel grape will sell better in the Eastern States than your layer grade if you will only take care with it. The trouble has been that you have been putting anything into the loose Moscatel.

Mr. Wetmore.—What would be your advice to the raisin maker who has a second and third crop of grapes which do not get thoroughly ripe, it being perhaps late in the season when there is very little sun, and he finds he cannot cure them in the sun, but he can desiccate them and make a dried grape of them. In the interests of his business ought he to send them to the distillers or put them in boxes and call them raisins?

Mr. Johnson.—There would be no doubt about that. He should sell them to distillers.

Mr. Byron Jackson.—I have a worse conundrum than that. Suppose you had a lot of Tokay grapes consigned to you as Moscatel raisins, what would you do?

Mr. Johnson.—Well, that is personal. Mr. Byron Jackson.—I have seen them put up in lots and marked Moscatel raisins.

Mr. Johnson.—If a man sent those raisins to me, to be frank with you, I would probably sell them. Now there is another point you ought to be very particular about and that is to mark on your package in a way that cannot be obliterated the grade of your raisin. It should be marked across the boxes in letters some three or four inches in length, and the letters made as deep as possible. It would be better even were they burnt in. This would be one step towards putting it out of the power of unscrupulous merchants to misrepresent. This misrepresentation is going on all the time and is one of the things that is debauching the California raisin business. You cannot expect in the future to make the same profits in raisin making that you have been making. The old days of a good many hundred dollars an acre are, I think, getting to be a thing of the past and you will have to come down in the very near future to a more business like proposition, in this, that there has got to be more competition, and the lower prices are inevitably going to rule. You are getting good prices this year, but they are abnormal, and are not going to last. You must recollect that there is a very short crop in Spain, and that has been supplemented to a great extent by the people fleeing to the mountains, and they have had some difficulty in getting the grapes picked, etc. It is possible that raisins which are quoted in New York at \$2.85 this year will next year, open at \$2.25 and \$2.35. There will be a marked difference. Now, I take it, all your aim should be to get your raisins as near in price to the imported raisin as possible. There is too great a gap now. It is not warranted by the quality. It is owing to the fact that there is so much slovenly packing here and no attention to grades. You have a little colony where there are perhaps 15 or 20 growers within half an hour's ride of each other, and you have say 15 different brands. Merchants don't want so many different brands; they want one brand. The Riverside colonies have made a step in the right direction. The Riverside

Fruit Company is grading and packing under their brand for a large proportion of their colony. They have packed some 30,000 or 40,000 boxes this year and the result is that the quantity is large and calculated to make an impression on the eye of the consumer. If you get a brand once established and a demand for it you must always keep that brand on hand to supply that demand. You endeavor to make an impression with California raisins, and a packer will send some good raisins to a certain locality. They will meet with favor and the next year they send for the same brand, and what is the result? They get a poor brand and become disgusted, and the following year will not take California raisins at all. They want the imported raisins then, and you have to make your fight over again. You ought to have in each locality a brand and pack under that brand, and see that you keep up the grade to that brand. In Fresno you have a dozen or more brands. I can imagine how a person considers that his brand is better than his neighbor's, and has a pride in his own name, but we will say that a brand of some particular person comes to San Francisco this year and gives excellent satisfaction; next year he may decide to send them somewhere else, and people who are pleased with his raisins here cannot get them. Mr. McPherson has been about as near right as anybody in this respect. He packed his raisins and graded them and sent them to one market. Before his raisins were packed this year he sold them on that account, but if they should go out of that market next year and the buyers get another brand that does not please them they would imagine the industry of packing raisins in California had gone to the deuce. You are making your fight and winning your battle and then losing your ground constantly. If anybody will come down to the store of William T. Coleman & Co., I will take pleasure in showing him 16 or 20 different brands of raisins of all qualities and all grades, and it is a very great mistake when you produce so many raisins in California that your local markets instead of paying the price of raisins in Boston with freights here added pay only the price of Boston, less your freight, as it will when the production is large. You find that there is a difference between the selling price of foreign raisins and California raisins of 50 cents per box, which arises from the fact that you pay no attention to your grading and that you pack raisins any way. When the business becomes unprofitable then you will commence, perhaps two or three years from now, to impress people in the Eastern States with the fact that you can make good raisins, and then you will commence to give them a series of brands that they can rely on from year to year. Our firm sells \$20,000 worth of the Royal Baking Powder per month. After spending some twenty-five or thirty thousand dollars in the last year, what would be the sense of our getting out a stock for two or three months only, and then allowing some other powders to come in and monopolize the trade and then be obliged to commence our fight all over again? If California raisins were a credit to California you might pack any number of different brands, but about one quarter of the raisins packed in California are a credit to our State, and the reputation of our raisins is made not by the best raisins that are made but by the poorest.

Mr. Wetmore.—I believe that Mr. Stewart of the firm of Geo. W. Meade & Co. is present. We would be glad to hear from him.

George H. Stewart.—Mr. Chairman, ladies and gentlemen, I am pretty much in the same situation as my friend Mr. Johnson. It was not until late this morning that I was notified that I was to take any part here this evening. I have had a busy day of it since and have had no time to prepare myself, consequently you will have to rely mainly on what I have heard from Mr. Johnson and such additional suggestions as I may have to offer. Mr. Johnson is certainly right in his conclusion that the great deficiency in California raisins is the lack of uniformity. It is almost impossible, if a firm receives an order for a car-load of raisins for the Eastern market or any other market, to get a car-load that will be uniform in quality throughout, either in London Layers or in Layers, or in loose Moscatels or whatever brand might be called for. During the past season a number of car-

loads which we have shipped have shown one great fault, and where one firm perhaps would be perfectly satisfied with the raisins they received, another firm would condemn the California raisins from the small lot they got, as being unfit for use. The idea of having an official grader is excellent. That is done in the flour trade, I believe, and in the sugar trade, and the official grader's stamp is authority for the quality and grade of the raisin. It would be a most wonderful thing for the raisin-growers of California. Another thing which Mr. Johnson touched upon was the advantage of making the boxes as tight as possible in order to save freight. That is quite an item with the producer because all his freight eventually must come out of his pocket. There is another item of economy which occurs to me. I do not see the advantage of layering the raisins throughout the whole box. If a person wants a quarter of a box of raisins they can get a quarter of a box put up in quarter boxes only, nicely faced. If a person wants a whole box they can get a whole box put up faced, and the bulk of the raisins in the box. I see no advantage to anybody in layering the raisins excepting the fact that it is a little more convenient to examine the raisins throughout the box when opening it. In packing a box full of raisins you make four layers and put in four sets of papers and go to the trouble of facing up these four layers, which necessarily increases the cost very much. The matter of the number of grades has also been touched upon, and what disposition should be made of the poorer grade of grapes, or rather the refuse, which would be otherwise thrown away. I agree with Mr. Johnson that they should either go to the distiller or be put upon the market just as they are and sold as dried grapes, for which there is a certain demand at all times. As regards the loose Moscatel it is very true that there is quite a demand for this grade of raisins, but still it will not do to pack all loose Moscatel raisins. I have noticed, especially in California, that when a man wants a box of raisins for his home use that there is not one out of twelve who will take loose Moscatels. He wants them with stems on them, and in nice bunches, so that they will look nicely in the dish when he puts them on the table, and if he lifts off a stem from the top of the box and finds the box filled in with loose Moscatels, or rather with scattered bunches, it don't please him; and it seems to me they should be packed either with the full bunches and marked in that way as a number of the imported raisins are marked, or else pack them without any stems, faced up, the same as the imported raisins, and sold as the loose Moscatel. I am very sorry I have not been able to prepare something more definite and more pleasing to you. If there are any questions which I can answer I will cheerfully do so.

Mr. Johnson.—I will say that I do not wish to mislead anyone in regard to the matter of loose Moscatels. In California and Colorado and in the Territory of New Mexico there is a trade for Layer raisins, and there is a very limited trade in the Eastern States for them also. Now that you are going more prominently into raisin growing and extending toward the East, the demand for loose Moscatels will increase, but as you say, in California, New Mexico and Colorado there is quite a trade for Layer raisins.

Mr. Stewart.—A number of the raisins that have been sent from California, some of which were sent by Geo. W. Meade & Co., were rejected because they had a sour taste. We could hardly believe that they were as sour as they said they were, but Mr. Meade was taking an Eastern trip at that time, and went around by way of the South, and tasted these raisins and most of them certainly were sour; there was scarcely any sweetness to them. I know they were grown in the Southern country, and it may have been due to the grape itself, to the soil on which it was grown, or the manner in which it was cured, or it might have been a combination of either. There was no fermentation about them. They were as pretty a raisin as one would wish to see. Possibly they were not picked when sufficiently ripe, the grower being too anxious to have them dried before the rains came.

Mr. Wetmore.—In your opinion what should be the first requisite of the raisin-

grower respecting the quality of his raisins, the quality of appearance or the quality of taste?

Mr. Stewart.—Well, I should say the quality of appearance, because, in the main, that is what sells the raisins. I have often thought if the California raisin producer could see his raisins about six months after he has put them up he would not blame the man who buys them or eats them for growling. You have seen some specimens of raisins that are exhibited here that are one year old. They are not only candied, but entirely sour and unfit for use, for either cooking or eating purposes.

Mr. Wetmore.—That sample was brought here to illustrate a principle. They were raised on low ground where it was about five or six feet to water. They were not ripe when they were put up and did not get thoroughly cured. There is another sample made in the same county, in the same year, where it was about twenty feet to water, and they are perfectly sound. That is what they were brought here for, to illustrate that very principle. I am not talking about the bad curing that shows itself at the end of the year, I am talking about that which shows itself when first made.

Mr. Stewart.—I understand that, undoubtedly those raisins were very nice when first made, and they sold on the appearance not on their taste or their intrinsic qualities.

Mr. Wetmore.—Do you think that the question of appearance ought to be more important than that of intrinsic quality?

Mr. Stewart.—I think so, looking from the producer's standpoint. If I am buying the raisins I want them to be of the best taste, but looking from your standpoint, I should say, appearance first and genuine worth afterwards.

Mr. Wetmore.—If you disappoint people in the quality of the raisins are the people likely to order goods the second time?

Mr. Stewart.—No, sir.

Mr. Landsberger.—I think a raisin of good appearance ought to be of good quality. I have never seen a raisin of good appearance and bad quality.

Mr. Wetmore.—You may have a fine large grape with no flavor whatever and then you may have a small grape with a very fine flavor.

Mr. Landsberger.—You can tell the grape by its appearance, and the quality of the raisin by its appearance. I do not refer so much to its size as to its general appearance, soundness and color etc.

Mr. Stewart.—This lot of raisins that were rejected were as pretty and handsome a lot of raisins as you would desire to look at; the bloom was perfect, the size was fine, the packing all that could be asked for in raisins—it was not fancy packing, but good packing, but, when you came to taste the raisin, it was perfectly sour. My idea is that a raisin should have, in the first place, a handsome appearance, it should be large in size, and should have small wrinkles instead of large ones. There is a certain kind of large wrinkle, which I cannot describe exactly, but with which you are all no doubt familiar, which is very undesirable in a raisin and detracts very greatly from its appearance, and even makes it look smaller than it actually is. I prefer the dark amber color in a raisin. The evaporated raisin will give you a light amber color, but I agree entirely with Mr. Johnson that the evaporated raisin stands no show whatever with the sun dried. It tastes too much like half cooked syrup. That is very plain, but it is the fact. The evaporated raisin has one advantage and that is that it will not candy. At any rate that is my belief. I had a box in my store until quite recently, which were some six years old and there was not a sign of candy about it. As regards Miss Austin's raisins I like the looks of them very much, but the taste, although pleasant, is not as sweet as I like myself.

Dr. Blatchly.—We maintain that these raisins of Miss Austin's will keep better than the sun dried raisins. The sour grapes which you mention may not only have been due to the locality where grown, but they could not have been picked in a perfectly ripe state. We have the same experience with all fruit. Where we do not obtain the very ripe ones we will be troubled by their being sour, and where we get a perfectly ripe fruit, we obtain a sweet article. In regard to raisins, dried artificially which we

have presented here, and of which Miss Austin is the first pioneer in introducing, we maintain they will keep beyond any doubt. Ship them to Australia and let them come back and I will maintain that this article will be A No. 1. This we maintain for artificially dried grapes in comparison with sun dried grapes.

Captain Westcott.—I have only had about four years' experience in the raisin business, but I am satisfied that you cannot make a good raisin unless the grape is thoroughly ripe and sweet, unless the water is out of it and it becomes meaty. I have had this year a good deal of trouble on account of the rain and the coldness of the season. That has been the experience in a good many places. It takes a great deal longer for the raisin to dry, but when the grape is thoroughly ripe I do not believe that it will candy if it has been properly cured. It is the grape that is picked green that loses the sugar. I have a few boxes of raisins that I cured four years ago, and I was noticing them the other day. There is not a particle of sugar on them and they are sweet and nice. If a grape is picked when it is comparatively green it will not darken, and you may dry it all you have a mind to and it will sugar. There in my vineyard I have no irrigation. The bottom land of the vineyard produces the largest grape and the finest raisins. This year I have been troubled more than any other year, since I have been retarded in drying. The temperature has not been on an average over 70 or 75 degrees and I have had grapes fully two months before I could get them dry. I have a dryer which I use as the last resort. I do not want to dry them in a dryer if I can possibly dry them in the sun as I believe that is the best way to dry them. I have had 60 to 80 tons out at a time, and if the rain comes on and it happens to get a little wet you feel as though you wanted a dryer to finish it up. That is the only case in which I would use a dryer, and I would not do it if I could possibly avoid it. Last year I commenced packing about the 20th of August. I had no trouble at all. My crop was all dried and not a raisin went into a dryer, but this year when I picked my Muscat grapes on the 1st of October they were not as sweet as those I picked last year on the 20th of August. I think that has been the experience in Woodland and at Davisville. I saw grapes picked there and I said I did not think it were possible to make a fine raisin of them. In order to make a fine raisin I think you will have to be in a climate where you have heat, and to dry a raisin right I believe the temperature ought to be from 90 to 95 degrees. It should not always be that high, but occasionally. For four years I have kept a record of the temperature, four times a day, and this year it does not compare with any previous years. The temperature in September did not go up to 85. During last year, in the same month, there were nine days that it went to 100 and any number of them it went to 90. It is true that if you keep the temperature up to 100, and over, you will spoil your raisins because you can get it too hot as well as not hot enough. After the first of October we had some dews, and I have had to bunch them up and it has caused a good deal of trouble to me in curing the grape this year. When we come to grade them for market I think that is what is going to beat us, if we do not have some uniformity, as it has been remarked before. Every man has his brand; some are very poor and some are very good. And it is a good deal as that gentleman stated who undertook to ship a car-load East, that it is pretty hard to pack up a car-load and have it of uniform brand.

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- | | |
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| Malmsey, | Boal, |
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- | | |
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| Mataro, | Folle Blanche, |
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FRIDAY.....APRIL 24, 1885

RECOGNITION.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.

Proprietor S. F. MERCHANT.—Dear Sir: Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.

Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural interest in the State, an exponent of their views and able advocate of their interests, and, moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished.

Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandise who wish to call our attention to their goods, aid us and other Viticulturists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.

Be it further resolved that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.

C. F. RIGGS, SECRETARY.

Santa Clara Viticulturists.

At the meeting of the Viticultural Society of Santa Clara, held Saturday, April 11th, business of importance to the members was transacted, and subsequently the questions of sulphuring and suckering were discussed. President J. B. J. Portal presided, and Mr. Wetmore, who was present, was called upon and gave his views on the above subjects and also some advice about establishing credit for the wine industry. A lively discussion arose as to prices and markets, Mr. Wetmore insisting that there was no wine ring in San Francisco, in answer to the positive statement of Mr. Feeley that such a ring did exist and cut down prices of wine to suit themselves. Mr. Wetmore conferred with the members as to their convenience for holding a District Convention. The date was fixed for the fourth week in May, or earlier, at the call of the Commissioner should he deem it so desirable. One day at this Convention will be set apart for discussion in the French language, as a number of gentlemen whose opinions are worth hearing, refrain from speaking in the English language, with which they are not sufficiently well acquainted.

CO-OPERATIVE WINE CELLARS AND DISTRIBUTION.

The necessity for co-operation on the part of wine makers is imperative if they are to reap the profits on their enterprise, skill and investments. Heretofore they have been content to take what the dealers were pleased to offer them for their vintages, and they are now in the position of having greatly increased production without securing for themselves an increased market. The wine makers of California, with the vintage of 1885 on their hands, and with 20,000,000 gallons ahead of them probably as the production of 1885, are as completely in the hands of some half dozen houses which have made a specialty of handling domestic wines, as they were half a dozen years ago when wine making was in its infancy.

This is not a safe position to occupy under any circumstances; but it is very easy to imagine conditions which would make it positively ruinous to the winemakers. Even now the dealers are said to be discriminating against the best cellars, and buying only new and immature wines, at a trifling price, as blends for the local and Eastern markets. By this plan they will compel even the strongest holders to dispose of their wines at very much less than a fair price to make room for the new vintage, while wine makers who are not "strong," are even now falling by the way, unwilling victims of these speculative, far-seeing middlemen.

The wine makers must combine in their own defence. Co-operation will save them and their industry; individual efforts only will most assuredly result in their ruin. They will be working for men who stand between them and the consumers, taking tribute with both hands like baronial highwaymen of the olden time. These exploiters of trade must be rendered powerless for evil, by wine makers organizing in the various wine centers of the State, and placing their own products on the market. This may be said to be an interference with the ordinary functions of trade, as formulated by modern writers on political economy; but it is a necessary one. Our forefathers had a rugged way of dealing with such matters, and made it a misdemeanor to "forestall the market." But that is precisely what "call boards" are now organized for; and also what the small but compact body of wine dealers in San Francisco are doing every day, without the fuss and flourish of the modern "call session" at the Produce or other Exchange. Indeed, we have heard it suggested that the wine trade should be taken up by these gambling institutions. This would be to intensify the evil, by creating a fictitious demand and purely speculative values.

What should be done is to organize not one, but several joint stock wine companies, to provide first for cellarage; second for storage in the city; third for establishing agencies or branches in leading Eastern and Western cities as points of distribution; and fourth, to supply the local market with wholesome wine, at a fair price, without deceptive labels or adulterations. This may be accomplished easily by co-operation. It cannot be done by individual effort. It is all very well to advise wine makers to provide cellarage for maturing their wine. Many of them, and especially beginners, cannot afford to build cellars or hold their wine. They must sell to live. But if they were partners in such an enterprise as we have indicated, they would be able to store their wine, and could borrow

money upon it precisely in the same way that money can be borrowed on wheat on warehouse certificates.

But the banks must be satisfied with the bonafides of the cellars, just as they require to be satisfied in the case of grain warehouses. If there were one great cellar in Napa county, another in Sonoma, a third in Santa Clara, a fourth in Los Angeles and so on, and if these were conducted by responsible incorporations there would be no difficulty in obtaining advances on wine stored therein. This would emancipate the wine makers of California from their present slavish dependence upon men who have had the foresight to build cellars, and prepare for handling wine products. It would also enable them to live while their wine was ripening, its enhanced value afterwards more than repaying interest on the advances from money lenders.

It follows that the work of distribution, or marketing the wine products of the State, could be more satisfactorily done by associated effort than under the present plan. Nor do we anticipate any difficulty with the railroads in the matter of freight. Above all, California wine would have a chance to make its way in the world upon its own merits, and not under false pretences as French or German wine. This is a very important consideration. If a saloon, hotel keeper, or grocer now orders California wine from any middleman, and asks for a foreign label it is affixed without demur, although by the act the wine merchant becomes a party to a deliberate fraud upon the consumer who is charged for what he does not get. Such deception and fraud would be impossible under the co-operative system outlined by us, because the stockholders would be the wine makers, and it would be their interest to create the greatest possible demand, at the highest range of prices, for their own products.

We hope some prominent wine maker in every wine county in the State, will take this matter up. It should be easy to raise capital sufficient to carry the enterprise through, the certainty of continuous profit should act as a spur to those who embark in it.

CUTTINGS SHOULD BE NAMED.

It is the duty of every one who has cuttings for sale to be very particular in classifying them properly, or else chaos and disorder will eventuate, which it will take seasons to straighten out. Considerable controversy has recently arisen as to the variety to which certain cuttings belong, which have been sold in this State under the name of Cabernet before, when upon closer examination, comparison and reference to books of authority, they proved to belong to the family of Malbecks. Some study is necessary; but it is the duty of every one to devote such attention to his business or else leave the classification to those who are more versed. Every man wants to know what he has in his vineyard, and has a right to know what he is buying and setting out. For the benefit of those who are trying to plant judiciously, and with some aim in view, such obstacles as the above should not be placed in their way.

The country generally, after the recent rains, looked splendid, and for once the farmers were satisfied, indications being favorable everywhere for a good year's crop. But the frost came and the farmers growled again and were happy.

ON VARIOUS VINES.

Dr. Guilbert of Cadillac, according to the *Moniteur Vinicole*, has since 1882 remarked that the Semillon and white Sauvignon vines around Sauternes preserved their foliage in spite of the invasion of mildew. Since then in a report the Doctor stated, to the Comice of Cadillac, that besides those two also three red varieties had their resistance against mildew well accentuated. These are the Castets, the Pardotte and the Graput.

The Castets variety Mr. Piola considers a near relation to the Cabernet varieties. Doubts about its identity with the Bequignav of St. André de Cubzac will soon be cleared up by investigation in France. It is a vine not much in use. It was known in the St. Macaire region as the Nicoleau vine. Replanted in the same district recently through the initiative of a Mr. Castets, it is now again an accepted vine there. For low lying positions it is considered very good, not being easily affected by late Spring frosts, as it begins to bud late. But it is subject to oidium. The fruit ripens a few days before the Malbec and yields a deep tinted wine of very fine quality. Long pruned it is a very productive vine. Mr. Dupuey states that in the Canton Bourg the St. Macaire, with which it was believed to be identical, ripens a few days after the Malbec, and it is therefore argued that the St. Macaire is not the Castets.

Additional reports from other parts confirm the immunity from mildew of the Castets and also that the wine made from the same grape is of excellent quality.

The Pardotte or Petite Purde, as it is called in Cadillac, has the name of Tripot at Cerons, Courbinotte at Budos, Pignon in the Medoc and Petit noir in Perigord. By this multiplicity of names its frequency of cultivation is indicated. It is a good grower and bearer, ripens shortly after the Malbec, yields a wine of feeble color, but of very fine quality. It is subject to coulure, but succeeds with both long and short pruning.

Graput or Prolongeau is a late ripening grape and yields wine of poor quality. This wine, which is not recommendable in other regards, requires short pruning.

Mr. J. H. Drummond's St. Macaire wine of last vintage turned out of very good quality. It is to be regretted that we can gather no nearer information from France about that variety. Apparently in the land of wine doubts about varieties abound and every scrap of information is welcome there as it is here. The Castets, according to the above recent notes, is not St. Macaire, at least in different localities the two vines thus far considered identical, ripen at different times compared with the period of maturity of the Malbec. Still, a contrary opinion may yet turn up from another quarter.

In driving through the Cupertino District, and in the neighborhood of Los Gatos recently, our attention was directed to the extensive area of fine vineyard land in this part of the Santa Clara valley. The soil between Stevens creek and Los Gatos is of a deep loamy gravel.

A Sanitarium will soon be established at San Jose, an organization having been formed for that purpose. A good site has been secured for the building, and the climate of San Jose is all that could be desired to ensure success to the work which reflects credit upon the originators.

EFFECTS OF THE FROST.

THE MERCHANT, some weeks ago, warned grape growers to be prepared, as far as possible, against late frosts which can be expected in certain sections of the State as late as the middle of May. Of course the valleys and low lands are most affected by Jack's visits, the hillsides as a rule being free from his attacks. Two of the largest wine-producing counties, Napa and Sonoma, appear to have suffered severely from the effects of last week's unwelcome visitor. Our Sonoma correspondent writes as follows: "The damage is very serious, even vineyards where early fires were lighted for smoke being touched. It is rumored that in some parts of the county the crop has been almost totally destroyed, and that next year's wood for fruit has been badly damaged. The second frost was not quite so severe as the first, yet quite heavy enough to do injury to vineyards not protected by smoke. There is fully a month before we can consider ourselves safe, so I think the vintage will be much smaller than that of last year, as even the high lands have been touched." In a subsequent letter our Sonoma correspondent says: "I have heard from Mr. Kohler's foreman that the damage is really serious. The vineyards near Sonoma are almost destroyed. Serious injury has been done near Santa Rosa and Healdsburg, and the prospects for a crop are very light." The *St. Helena Star*, of 20th inst., says: "Flat lands along Napa river suffered the worst from the visitation and many vineyards scattered throughout the valley were badly bitten. This morning the heaviest frost of all left its mark on the budding vines, being more severe than previous ones, owing to the slight rain that fell just before nightfall, Sunday, and left the ground damp. There is no disguising the fact that from these three frosts the coming vintage of Napa Valley will be materially decreased. The damage is wide spread and serious, few vineyards escaping a touch of more or less severity. Various estimates place the probable damage to date on an average of from twenty-five to fifty per cent of the crop of 1885."

Special dispatches to the MERCHANT show that at Livermore valley but one vineyard was affected by the frost. San Joaquin valley, Chico and Colusa, however, felt the effects very severely. At San Jose hail and rain have fallen, though but little damage has been done.

We called upon several of the leading wine merchants of San Francisco to ascertain their views on the extent of the frost with regard to the coming vintage. One of them stated that the loss would not be five per cent on the whole, that he had heard nothing from his country correspondents as to the damage done to the vines, and that, as last year's vintage was far in excess of the demand, the result would be really beneficial, as it would prevent the enormous surplus of wines that was anticipated. As he is a grape grower and wine maker himself, it is but natural that he should desire a short supply on the part of others, his vineyards having escaped any damaging effects. He offered no consolation whatever to those who would be serious pecuniary losers by the frost. Another gentleman said that the loss would fall chiefly upon Sonoma and Napa counties, especially on the owners of vineyards in the valleys and low lands. He anticipated that these counties would lose at least 20 per cent of their coming crops, and felt

that there were very hard times in store for them. Napa and Sonoma produced last year, almost ten out of the fifteen million gallons of wine that were made in California. Estimating this year's vintage at twenty million gallons, the loss at 20 per cent, from these two counties alone, averaging their production in the same proportion as that of last year, will be two and a quarter million gallons of wine. The consumption of California wines is rapidly increasing, consequently this large decrease in our production would naturally be felt, notwithstanding the expression of opinion on the part of one of our merchants that it would not affect the supply by more than five per cent. We shall be glad to learn further particulars from our country friends as to the exact amount of damage that has been effected for the purpose of obtaining an accurate estimate of the coming vintage. In the meantime we advise them, if possible, not to be too anxious to sell. If the wine makers and grape growers of each district will notify the MERCHANT of their losses by the late frost, and give accurate estimates of their probable supply for this year, they will in return receive a plain and impartial statement of their standing as regards the local market.

CALIFORNIA WINES FOR HONOLULU.

The last issue of the MERCHANT gave particulars of the tariff, in Honolulu, on California wines and also mentioned the fact that spirit licenses had been quite recently issued throughout the entire group of Islands. Now the benefit to be derived from the general issuance of spirit licenses is problematical. It will doubtless prevent, to a certain extent, the indiscriminate unlicensed sale of imported and home made poisons, but it will not effectually remove the curse of drink from which many of the natives are suffering. It would be far better that their stimulants should be of a milder character than those at present consumed, better both for their health and pockets. To effect this desired result an alteration must be made in the existing law regulating the sale of liquors. It would be well to grant special wine licenses to grocery stores, whereby California wines could be purchased by the bottle. Hawaiian legislators might even go further and license the retailing of light wines, by the glass, at the drug stores of the Kanaka capital and other main centers of civilization. We think that the sale of light wines in competition with the contents of "soda-water fountains" would tend to reduce the consumption of the latter frothy liquids to the great benefit of the health of the consumer. California wines could be retailed at ten cents per glass—the same price as the vanilla, lemon and strawberry mixtures—leaving a good margin for profit; moreover there would be a decrease in drunkenness. We commend this point to the attention of the Honolulu *Advertiser* which is now doing good work in the interests of our great California industry.

Our Honolulu contemporary, the *Advertiser*, is now owned by an incorporated company of which Robert J. Creighton, for many years editor of the *Evening Post*, is the President. We have known Mr. Creighton for fifteen years; he is a gentleman and a most capable journalist, and the *Advertiser* receives the congratulations of the MERCHANT upon the result of its Presidential election.

AMERICAN WINES.

Mr. Felix Astruc of Montpellier publishes a letter on American wines. He asks the question if the resistance of these against phylloxera will continue, will that virtue be modified by cultivation in France? The reply he leaves to the future, but is contented that some very good varieties, already for twelve or fourteen years under trial, do not show any enfeeblement of their resistant vigor. Large sums of money and much labor have been lost by trials with quite a number of useless varieties. Clinton, Concord, Taylor, Alvez and many others, of which high expectations were entertained, have been altogether set aside. The Riparias, Jacquez, Solonis, Yorks and Othellos are adopted. Of the innumerable sub-varieties of the Riparia family those of thick wood and large leaves are selected. The Giant Riparia, the glory of Montpellier Riparia and Vitalis are most preferred. Solonis, some time ago neglected, have been retaken this season in France for very moist and saline soil, in which the others perished. Jacquez is less sought after than in former years. Its wine is flat, its color blueish and unadapted for blends. It had been advised to mix one-fifth of Jacquez grapes with others to ferment together, expecting good results from the reactive effect of the free acids of noble vinifera grapes for turning the blueish tint of the Jacquez into a lively red. The trials made last vintage were disheartening. The wines did not turn out marketable, and those who bought them will not repeat the purchase another season. Proprietors who grafted largely on Jacquez repent of it. One great drawback of the wine having Jacquez juice in it, is the constant depositing from the fermenting tub to the glass from which it is drunk.

The moral from these reflections is that with the most attentive investigations blunders are occurring everywhere. Watchfulness and constant search for information is one of the requisites of the practical education of the vigneron.

AT MERITHEW.

The Merithew District, as it shall here be called for want of another name, situated in Santa Clara valley, has a very deep reddish gravelly loam. Particularly valuable for grape vines are the well-drained benches which form the cream of the land for wine grapes. J. T. Doyle is fortunate enough to possess an extensive acreage in vines of choice imported varieties as well as others which he is propagating for future grafting purposes. Mr. Merithew and many others located between the road and the hills, which land is all of this gravelly loam so favorable for high-class wines, are also the fortunate possessors of good varieties of vinea suitable to this District, of the Bordeaux type. It is expected that they will ultimately make a wine which will pass for genuine Bordeaux even in France.

The official figures of wines entered in the first three months of 1885 in France are as follows:

Bought from	Gallons.	Against first 3 months of 1884.
Spain	24,691,488	25,804,369
Italy	3,808,596	13,359,112
Other countries.....	6,020,731	5,760,770

The decrease in the importations from Italy is justified by the half crop the latter country unfortunately obtained last year from its vineyards. The other countries which sold wines to France were Dalmatia, Hungary, Greece, Algiers and Portugal.

GRAPE SEEDS.

We find the following opinion expressed in Dr. Bersch's Wine Journal: Grape seeds have a very hard skin, which the germinator has to burst. To facilitate this, the seeds may be put for awhile in hot (not boiling) water and be allowed to swell slightly. The embryo being covered, it cannot be injured thereby. Fermentation has a similar influence upon the hard grape seeds, a moderate duration of fermentation will stimulate the power of germination of the seeds. Grape seeds as a rule have a feeble capability of germination and many more failures than successes are to be chronicled with this means of propagation. Quite sound and apparently vigorous seeds will remain sterile, while often even 50 per cent of less strong seeds will grow. Riesling, Traminer and other noble varieties seem to have very little growing power in their seeds. Rarely before a month seeds will sprout, more often it will take months. Four hundred and ninety-nine days have passed in a certain case before a seed began to grow. None but seed from ripe and fresh or dried grapes, which had no rot, should be used for planting. Seeds of old boxed raisins are useless for the purpose. Nobbs of Tharand found that of seeds of fresh grapes 8 to 9 per cent grew, while those of grapes from the fermenting tub, 48 hours fermentation 30 per cent, and of others after 72 hours fermentation, 35 per cent germinated, partly very late, some even after 150 days in the soil. Patience is needed with grape seeds in the propagating house or in the oven. In any case, a short fermentation seems to favor germination of seeds.

There was a meeting of grape growers at Los Gatos, Santa Clara county, on Friday, April 10th, and, although it was an entirely impromptu affair—the announcement of the meeting having only been made at 2 o'clock of the same day—nearly fifty gentlemen were present. Mr. Wetmore, who addressed the meeting, was listened to with marked attention, and recommended the planting of the Bordeaux type of varieties as most suited to the District.

In Japan the bamboo pipes, three and four inches in diameter, are utilized as conductors of water, and it was thought they might be made available for conducting wine, in preference to iron pipes which slightly affect its taste. A gentleman who has recently experimented, in California, in this direction, finds that the use of the bamboo is impracticable as it cracks and leaks as soon as dried.

The pamphlet on Viticulture and Viniculture in California, specially issued by the State Viticultural Commission, consists of important extracts from the last report of the Chief Executive Officer, followed by a chapter on the Development of Commerce in Viticultural Products in the United States, which was specially prepared for the edition.

A new Savings and Deposit Bank was opened in Honolulu on 15th inst., by Claus Spreckels & Co., who will in future do a regular banking business.

THE MERCHANT office is indebted to John Rock of San Jose for a box-full of beautiful flowers that have been scenting the sanctum for some days.

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FERMENTATION AND DISEASES OF WINES.

A Paper Read by Prof. W. B. RISING
At the Third Annual Viti-cultural Convention.

Professor W. B. Rising.—Mr. President and gentlemen of the Convention. Prof. Hilgard and myself were appointed by the State Commission some time ago to devote what time we could to the study of the subject of fermentation with a view to help, so far as we could, the wine-growers of California in the fermenting of their wines. The work which we have done has been to make a general survey of the field, and on my part particularly, it has been a study of the subject almost from the very beginning. We have visited a number of wine cellars. We have observed the method of fermentation, and what is presented here is a statement of general principles. Later on the investigations, as they assume definite shapes and reach conclusions, will be given through the State Viti-cultural Commission. What we have to offer to-day is a chemist's view of the general principles of fermentation.

In entering upon the study of fermentation the chemist naturally attempts to ascertain all the substances which are present in the fermenting liquid, their various properties and behavior towards each other under a wide range of conditions. He hopes if he can realize his expectations to be able to follow each and every substance present through its various changes to its final product. He attempts to determine the conditions which govern these changes, and, by varying the conditions when possible, to produce a more acceptable product. We can hardly hope with the present development of chemical science and chemical manipulation to reach the above indicated result, i. e., to trace every reaction from its beginning to the end. But chemists of all nations have begun the work and are to-day contributing important facts and discoveries which throw new light upon the subject.

In this connection I wish to call attention to the value and importance of the observations and experiments of the wine-growers themselves. We want all the information possible in regard to the present condition, success and failure of fermentation on this Coast. In many cases the want of success when all the conditions are known may be far more instructive than success itself. If when a poor product is placed in our hands for study and analysis we can know all the facts in regard to it, it will be far easier to give the wine-grower advice which may enable him to escape this error another year. A daily record of observations in which every important fact is set down will be of the greatest value to the profession. Before entering upon a systematic discussion of the subject, a few words in regard to the nature of vegetable products may not be out of place. We may classify all chemical changes under two heads, those taking place with the liberation of heat and those with the absorption of heat. The ordinary changes taking place in nature, independent of plant and animal life, are of the first class: heat producing changes. The old substances out of which the new ones were formed cannot reform; they have lost heat, i. e., energy in the change which has taken place and this heat or energy lost must be restored in order to reproduce the original substances. In this way chemical changes have been going on in nature one after the other, with the liberation of heat at each successive change until we come to very stable compounds, and but for the aid of energy from without no further change were possible. As an illustration any compound of carbon, hydrogen and oxygen, which elements make up the constituents of the grape juice, may pass from one change to another, losing energy at each step, until carbonic acid and water are formed. These cannot unite or combine in any way so that heat can be liberated, and so, unaided, chemical action comes to an end. In direct contrast or opposition to this class of changes are those which take place in the growing plant. Here the final products of chemical action, carbonic acid and water are taken up by the plant and under the influence of the light and heat of the sun, i. e., by absorbing its energy are

decomposed oxygen in part given out and the remainder with the carbon and hydrogen assimilated or constructed into plant tissue. We now have in plant substance a store of energy and hence the possibility of chemical action within itself. If we supply the oxygen set free during the growth of the plant we can convert the vegetable back again into the carbonic acid and water from which it was first formed. We have gained however the energy which the plant took from the sun and which is one source of mechanical power. We can now understand why so many changes are possible in the juice of the grape. As principal constituents we have sugar, certain acids, a small amount of nitrogenous matter, ash, etc. The sugar is capable of conversion into a great variety of substances before it is finally changed into carbonic acid and water. For each of these changes there is a law, certain conditions which must be fulfilled, if the given change is to take place. The dry crystallized sugar can be kept an indefinite period without change and so of all the acids, etc., in the grape. A solution of these perfectly pure does not change, but add a little yeast and fermentation begins at once and carbonic acid and alcohol are formed if kept at a moderate temperature. If instead of ordinary yeast we add putrid cheese, sour milk and a base of lime or oxide of zinc and warm to 80 or 90 degrees our sugar is converted into lactic acid. If we continue our fermentation the lactic acid is converted into butyric acid, carbonic acid and hydrogen. These changes involve other changes in the fermenting liquid so that the action becomes complicated. Each is produced by a definite exciting cause and may itself become an exciting cause of some other reaction.

I shall pass over the whole subject of ferments leaving the discussion of them for another meeting and will simply refer to them as causes exciting chemical action. How they act can only be a matter of speculation, that they do act is a demonstrated fact. We can safely assume their presence in almost all fruit juice, not always present and not always present in the same abundance. They may not be found on the unripe grapes and on grapes ripened out of season in a hot house, but on the grape as ordinarily grown and ripened they will be found in abundance. For the purposes of study we take the juice of the grape obtained in the usual manner. The first point claiming attention is the temperature at which the fermentation shall be conducted. It is well established that alcoholic fermentation may be carried on within a wide range of temperatures—somewhere from 38 degrees to 130 degrees Fahrenheit. The influence of temperature is very great upon the wine produced. The experiment has been repeatedly made of fermenting the same grapes at widely different temperatures. The result has been that two very different wines were produced. In the manufacture of beer two fermentations have long been recognized, the top and bottom fermentations. In the one case it is carried on at a low temperature, 41 to 59 degrees, and proceeds slowly, the yeast sinks. Above this temperature the fermentation goes on more rapidly, the yeast rises; the greatest rapidity is reached at 95 to 104 degrees.

Experience points to the lowest temperature as the better of the two. The Rhine wines are fermented at 45 to 60 degrees; they keep well, are fine flavored and of good bouquet. The wines of Southern countries do not uniformly possess the good keeping qualities of those fermented at lower temperatures. While many theorists strongly advocate the very low temperature, 45 to 60 degrees, I think experience has shown that the best results are more uniformly obtained when neither the very low nor very high temperatures are used. The low fermentation could find but a limited application on this Coast, the climate does not favor it, it is slow, the wine must be kept a long time before it is ready for market, so that if it cannot be shown that a very superior wine can be thus produced, it does not specially recommend itself to us. It not infrequently happens that some of the sugar remains a long time unfermented and so gives other ferments an opportunity to set up other reactions which materially injure the wine.

If we can only give at the best a qualified commendation of the low fermentation we

certainly cannot recommend the high fermentation. The two fermentations give different products, we have already stated that the same grapes gave two different wines according as they were fermented at high or low temperatures. This is in keeping with the well-known facts of chemistry. A change of temperature changes or tends to change the chemical action. The chemist has suggestions of many reactions which may take place with a change of temperature. As already stated the fermentation is most rapid at 95 to 104 degrees Fahrenheit, above or below this temperature it decreases. The most rapid fermentation is not by any means the most desirable. As a rule it leaves a certain amount of sugar unfermented. This wine is very subject to other fermentations or changes which are hurtful if they do not totally destroy it. In the fermentation of grains, and especially of potatoes, etc., the high temperature increases the amount of fusil oil, it is believed that the same holds good in regard to vinous fermentation. It is also generally believed that the wines fermented at high temperatures lack in good flavor and bouquet. These wines as a rule hold more tartar in solution which they deposit but slowly during a long time, hence they often become turbid upon standing or during transportation.

The middle temperature commends itself because of the uniformly good product which it gives and because of the greater ease and safety in conducting the fermentation. Investigations by Blankhorn and Moritz have shown that the fermentation product obtained between 60 and 77 or 80 degrees is practically the same. They could not by chemical means show any appreciable difference between them. I believe this middle temperature can be attained in almost all cases in this State. With greater care exercised in the construction and management of the cellar, with protection from the direct or reflected rays of the sun and with some appliances for slight artificial cooling almost every wine-maker can ferment his wine at this middle temperature.

In warm cellars the size of the fermenting tanks has an appreciable effect upon the temperature of the fermenting juice. This is easily understood when we remember that the fermentation is attended by the liberation of heat, consequently the larger the tank the more of this heat is restrained and therefore the temperature is raised. What I have said refers more particularly to the first or principal fermentation. The chemical changes as we understand them are as follows: The sugar is converted into alcohol, carbonic acid, glycerine, lactic acid, a small amount of fusil oil, and only a small amount is left. The ferment has grown and in part separated, the excess of argol has been deposited, the acids may have undergone some change, and the fermenting ethers already begun. Now follows the second and more quiet stage of fermentation. This is in fact simply a continuation of the first. The fermentation of the small amount of sugar left continues the ferment separates and so does the nitrogenous matter to a certain extent, and the formation of ethers continues. This is followed by a third stage which begins with the heat of Spring, the wine expands with the heat, carbonic acid is expelled and there is the appearance of fermentation. During this period the ether formation goes forward and a number of lesser chemical changes take place not well understood, which give to the wine its better taste and flavor, called the ageing of the wine. This continues for a long time; when kept in wooden packages there is a slight diminution of alcohol, and the oxygen is believed to penetrate to a certain extent through the wood and effect certain changes.

THE DISEASES OF WINE—THE ACTION OF ATMOSPHERIC AIR ON THE WINE.

Here we find great difference in the behavior of different wines. The ordinary action is attended by the loss of alcohol and the formation of acetic acid, i. e., acetic fermentation has set in; in other cases there is a loss of alcohol with liberation of carbonic acid; and in other cases still very little change is apparent, a slight change of taste yet very little that the chemist can detect with his reagents, oxygen has been absorbed to a certain extent and but little more can be said in regard to it. The one

evil that we have to fear in this connection is the acetification. The first thought is that it would surely form in the open fermentation, but on the other hand it is to be remembered that the whole must be saturated with carbonic acid so that the air can only come in contact with the upper surface. When the lees rise to the surface and remain for a time in contact with the air then is the opportunity for the process to begin, and once begun it is easy for it to continue. Greater care in this part of the fermentation will cut off this possibility of injury to the wine from this cause.

Of the means used to prevent this acetification after fermentation may be mentioned that of covering it with oil and the adding of turpentine to the wine. Professor Nessler says that the turpentine was used to a considerable extent in parts of Greece. As can be readily imagined the flavor of the wine was not improved by this treatment. The investigations of Pasteur suggested filtering the air and various forms of apparatus have been devised for this purpose. The complete exclusion of the air is the one safe and universal remedy.

THE TURNING OF THE WINE.

Wines imperfectly or poorly fermented are subject to changes which in very many cases completely destroy them or at least place them in the lowest class. In our survey of the work which a chemist might undertake with most profit to the wine-growers it has seemed that here was the place to begin the special study and investigation. The manner of beginning this work is something as follows: Take the sample of diseased wines, typical samples, whose history and treatment is known and by careful analysis determine the true composition of the wine, the abnormal ingredients which are present and the normal ones which are wanting, then with a knowledge of the properties and behavior of these various substances and their mutual relations we may begin a series of experiments which will suggest proper remedies. This work is by no means an easy one nor is it one quickly done. The "milk-sour" wines as they are popularly called suggest a beginning and the Commission has one well under way. A partial report will be offered a little later.

The literature of the subject that has been accessible to us is somewhat meager. I quote from Professor Nessler who made a report on the wine industry for the German Government: "Both red and white wines are subject to the 'turning' which usually takes place during the warm months. They become turbid and cloudy, at the same time the wine loses alcohol and gains acid. This disease takes place especially in young wines not sufficiently or properly fermented or not racked at the proper time. At a low temperature a wine can remain cloudy for weeks, without essentially changing its properties, while at a higher temperature the deterioration of the wine is perceptible in a few days. Investigation has shown a higher percentage of potash, no sugar, and in wines entirely destroyed no glycerine and no constituents which can further be converted into sugar. The sugar has been converted into lactic acid and the amount of volatile acids has been increased. The tartar of the casks disappeared and hence the increase of potash in the wine." Balord has reported the lactic acid ferment in this "turned" wine, etc. A casual observation will show how cautiously the chemist must conduct his work, taking nothing for granted, but prove by experiment every point in his work. Some have assumed that it came from the ferment and arose from some decomposition of the yeast. The recommendation is made to transfer the wine to freshly sulphured barrels, the ferment being killed by the sulphurous acid. I will not attempt to enumerate all the diseases of the wine. They sometimes become turbid and ropy (red wines) supposed to come from sugar which was not fermented; by whipping or shaking with air they are cleared. The color may be affected; red wines trace less color and white wines become brown; sometimes they give a black precipitate; the wine contains iron which is acted upon by the tannic acid. Wines become turbid from change of temperature; when cooled they cannot hold as much tartar in solution, and hence become turbid from slow precipitates.

SHIPPING GRAPES.

A Paper by William H. West with Subsequent Discussion at the Third Annual Viticultural Convention.

To gather accurate statistics of the amount of table grapes sent to the San Francisco market would be an impossibility; only approximate estimates can be reached, as the shipments by rail and boats are mixed with those sent for wine. I find by questioning commission merchants that about 30 tons is received per day, during the season which lasts about 100 days, or in round numbers 3,000 tons. Of these large shipments are made to Oregon, Washington Territory and other parts of this State. More correct estimates can be made of shipments to the Eastern markets, although not absolutely accurate on account of my limited time to make investigations. About 150 to 200 carloads or 1500 to 2000 tons have been sent East according to the statement of Mr. E. T. Earl one of the large shippers. He says: Our grapes are more popular than any other California fruit, and the demand is increasing. With lower freight, and improved method of packing, the market would be unlimited. At present the total cost is about 10 cents per pound, by the carload, laid down in Chicago, of this amount the transportation charges are five cents per pound on net weight, leaving five cents for grapes, packages, and sundry expenses. The most popular varieties for Eastern shipments are the Flame Tokay, Muscat of Alexandria, Black Ferrara, Emperor and Cornichon. The acreage planted in table grapes is quite large, and unless there is a reduction in freight there will soon be an overproduction—already the production exceeds the demand. The only competitor which our grapes have in the East are the grapes of Almeria. They shipped to the United States in 1878, \$142,000 worth. This does not include shipments from Malaga which were not large. In 1879 the shipments from Almeria and other ports were 44,365 barrels—56,722 half barrels. There is usually a loss of 25 per cent in rotting and otherwise. These grapes are large, coarse, greenish white, becoming amber when ripe, they are packed in barrels with cork dust. To anyone who has become familiar with California fruit they are insipid, but Eastern and English people use them as is shown by the large amount consumed. The merchants of Almeria claim that they cannot be afforded at less than ten cents per pound, on board of ship, but they are frequently sold in New York market at that price. These grapes were formerly grown near, and shipped from Malaga, but it was found that the grapes from Almeria, were larger and had better shipping qualities, so the production at Malaga has almost ceased, and like many other branches of industry, the growing of this kind of grape is made a specialty and is confined to that place. We will soon have to learn this lesson in this State, that some kinds of grapes are suited to certain localities and to make it profitable we must grow those kinds. The grape of Almeria has fruited in this State, and judging from its flavor it will be much superior to the Spanish article, it shows good shipping qualities, and in the proper place will no doubt prove a valuable acquisition, its color being an amber white will give it prominent place as a shipping grape.

It will not be necessary to describe the Flame Tokay or the Muscat of Alexandria as they are well known. I can only say that they stand at the head of the list in the East, although there is much difficulty in keeping the latter.

The Black Ferrara is not so well known. It is when ripe, a deep bluish black, very firm, very productive, of good flavor, and a much better keeper than the preceding. It ripens at Stockton about middle of October.

The Emperor is also a very good keeping grape, its color is a little darker than the Tokay, it ripens a little later than the Ferrara, is rather a shy bearer but produces some very fine large bunches.

The Cornichon is also well known.

In conclusion let me say that the shipping of grapes to the Eastern market is a very uncertain business and should only be engaged in by those who thoroughly under-

stand it, and have the means of disposing of the grapes on arrival, those who have not these advantages had better let it alone.

The principal obstacle is the high freight which makes the cost of the grapes so high that but few can use them; the consequence is that the limit of the Eastern consumption is about reached, at any rate until business is more prosperous there.

Mr. Wetmore.—I would like to say something in regard to shipping grapes, as I have almost every day, especially at this season of the year, to answer some questions about what should be planted. A large number of people who desire to engage in planting vines have a fancy for raising shipping grapes, thinking it will give them less trouble and requires less care. I believe with Mr. West that when they take hold of shipping grapes they are involving themselves in what will require the most care of all. There is no branch of viticulture that requires so much care as the raising of shipping grapes. Not only must the crops be of suitable quality for shipping, but they have to be picked from time to time as they ripen. It requires, for even a comparatively small crop, a large force of people and very excellent superintendence to pack them. Those who undertake to engage in the cultivation and packing of shipping grapes should have good facilities for transportation, should be on the line of the railroad, and should have soils from which they know they can produce a grape that will stand shipment and keep well. Without these facilities, when the test of competition appears, I do not think they will find the business profitable. So many acres have been planted that the test of competition will cause those who are badly located to suffer. The people who are shipping grapes in the East are generally large houses who buy by the car-load and they like to superintend their shipments in large lots. At present they buy of certain grades wherever they can get them but in a few years the quantity will be sufficient probably for the demand, and only those with proper facilities can undertake the business with success. The size and beauty of the grape may not always be a guarantee of its quality and value for shipping purposes. Many people in this State have lost a great deal of money in shipping grapes that rotted on the way. There are conditions of growth in certain places that prevent the production of good shipping grapes. I have endeavored to have the shippers come here and give testimony on this subject, but without success. I asked one prominent gentleman last Spring if he would not say something at our Fresno Convention. He said: "Mr. Wetmore, I agree with you exactly; you are perfectly right; but it has cost me many thousands of dollars to get my experience and to know where to buy grapes, and if I were to attend one of your Conventions I should tell the truth about it, but I don't propose to give my business away. I have got to buy grapes, and maybe that I have got to buy grapes that I would condemn, but I don't want to have unpleasant relations with vine growers." Now we are meeting to find out something which will be of advantage to us all, and also to keep the public from falling into error, because it is the lowest grade that fixes prices, which will apply just as well to our wines. The industry in California has been cursed by poor wines, and the result is that our good wines cannot have prominence unless they have a foreign label on them, and what we are trying to do in the wine business is to eliminate the poor wines. We will have the same trouble with our shipping grapes. Merchants will estimate what they will pay according to the risk they will take of getting a bad lot, and it is to our interest everywhere to get sound doctrines on these questions. There are points in this State where they raise grapes that ship well and there are other points where they do not, and there are reasons for it. The same gentleman that I referred to told me, after the vintage was over, what had been the results of his observations. I had asked him the previous Spring to observe carefully in shipping grapes East what experience he had had with different lots from different localities, with a view of determining if possible the best local advantages for producing grapes that would stand shipment and keep well after being received in the East. He found that the grapes raised on well drained, warm, dry soil, where the moisture is not near the

surface, but where there is sufficient moisture by capillary attraction to keep the vines alive, where they do not irrigate in the Summer, are those that ship well and keep well. He also found that grapes that would rattle when they were picked would ship well. It is hard to find any part of this State where viticulture cannot be entered into profitably where the climate is suitable, but there is no reason why each man should get hold of the wrong end of it, and intelligent people will assist us in attempting to break down these foolish notions which tend to guide people to do the wrong thing. There are people who, looking at the matter from a certain standpoint, advise everybody who plant grapes to plant nothing but raisin grapes. If such advice were followed what would it bring us to? Suppose that the people in Napa county should plant raisin grapes we would have a nice time of it. The people who desire to raise raisins should not be any more sensitive on the subject of criticism as to their locality than the wine men are, and it is about time for us to be cautious about what we are planting because over-production now means over-production of inferior goods. The limit of profitable production is probably very far off. It may be that we cannot keep pace with the growth of 50,000,000 of people. People are getting more luxurious in their ways of living, and the second generation in the West, the descendants of those who lived during the time of the pioneers, on bacon and hard-tack, get pie and pudding to live on, with the improved means of transportation and trade that comes to them with increasing civilization. That class of people are coming nearer to us all the time; our market is getting nearer instead of getting farther off. The great States of the West that have been built up by careful, economical people are getting wealthy and are going to become large consumers, and are getting nearer to us as markets all the time. If each one of our 50,000,000 of people consume but one pound of California grapes in a year it would be 50,000,000 pounds. If we can only manage to get cheaper transportation and better facilities for shipping then we can increase our markets very largely, but we must send grapes that the dealers will have no trouble with, otherwise they would rather deal in some other class of goods. The market for table grapes at home is very limited, as nearly every vineyard can turn out more or less good grapes for the table, and it is pretty hard to tell what to plant for the San Francisco market. The supply for the local market is very great, and I think that those who undertake to enter into that business are the ones who should give the greatest care and attention to what they are doing, they must not be carried away with the idea, that because they can raise big grapes in big bunches in some places, that they have the best thing in the world. We would be glad to hear from any other person or who desires to discuss the question of shipping grapes.

Mr. W. H. Aiken.—I would like to say one word in regard to transportation. A house in Chicago informed us last year that they would like to take our grapes on commission, they paying all the expenses, and the commission to be 10 per cent. The charge for transportation was \$800 a car I believe. We made quite a number of shipments from the Santa Cruz mountains of the Moscat and the Flame Tokay, and their reports were that we netted on the Flame Tokay \$100 a ton and on the Moscat \$80 a ton. They made the same proposition to us this year, but, owing to the early rain which I think took the shipping qualities from the grape, we thought it would not be best to venture upon that enterprise, as the freight was \$800 and would have to be advanced. If the growers would be very careful to send good grapes in this manner enterprising firms would be willing to take California grapes upon commission, and good prices could be commanded in those markets. The fruit growers Convention met this year and appointed a commission to wait upon the railroad authorities, and the Horticultural Society appointed a committee for the same purpose, and it is to be hoped that they will succeed in obtaining next year a reduction in the railroad freights. They will endeavor, if possible, to have the rates reduced from \$600 a car to \$400, or say from four to two cents a pound. Such a proposi-

tion will probably be made to the railroad company this month. We might be able to raise fruit and grapes a little cheaper and make some money, but if we can get two cents a pound, and give the railroad company two cents a pound it will be a fair division, and the railroad company would be the gain by it. The railroad authorities, with whom we have conversed, are of the opinion that they could put on a daily fruit express train, which would be a great thing, and if we could manage to make up such a train daily they could well afford to take it for one-half the charge and still make money. The future of the fruit and the grape in this State is certainly very bright if the railroad authorities see fit to assist us in finding a market for our products. They can build up a transportation trade for themselves and at the same time assist us in getting rid of the large surplus we now have on hand of grapes and fruit. It would no doubt be an excellent idea for this body to appoint a committee to unite with the two committees now appointed in the endeavor to accomplish this result. In our section we raise a very large solid grape that has a shipping quality. Of course we have long and hard rains and if we get caught in the rains we have to dispose of our goods nearer home, and that is what we have been obliged to do this year.

Mr. Cantelow of Vacaville.—I have been furnishing Mr. Earl, the last four or five years, with shipping grapes and the trouble in our neighborhood is that we can't furnish enough. They are after our grapes weeks before they are ripe, and last year they paid us \$100 a ton for Muscats and \$70 a ton for Fontainebleau, and the shippers always furnished the packages. This year, the late rains we had made our neighborhood nearly as late as other places and the highest we got was \$70 a ton. Our trouble has been that we cannot give them anything like what they want; they are not in the neighborhood we have not sufficient ground that is suitable for shipping grapes. The grape they are after is raised on high ground, we do not raise such a great quantity to the acre but they seem to like them. Most of the Fontainebleau goes to Denver, and the Muscats and Tokays go east. Another trouble that we experience is that the shippers do not give us the proper time to put the grapes up for them. They make a contract with us at those prices from week to week but when they send their orders they will not give us the proper time to pack them, and the consequence is that there is complaint in Denver that we do not fill the packages full enough. The reason for this is that we do not have time enough to sweat them. No grape should be packed and shipped any distance unless it has been picked 24 hours before it is packed, but we frequently get our orders in the morning to ship at 4 o'clock the same day, and the consequence is that the grapes do not go through in good shape. We have to squeeze them into the packages and, when they get to their destination, the packages are net full and the grapes are apt to be broken, but when we have the proper time to prepare them they will go to New York in perfectly good shape.

Mr. Wetmore.—The sweating that you refer to is willing is it not?

Mr. Cantelow.—Yes sir. A person who picks grapes to ship East should have baskets enough to fill a car-load without taking them out of the basket. They should not be taken out of the baskets in which you pick them until they are put in the packages in which they go East. They should be handled as little as possible.



The Best Spring Medicine and Beautifier of the Complexion in use. Cures Rashes, Pimples, Blisters, Neuralgia, Scrofula, Gout, Rheumatic and Mercurial Pains, and all Diseases arising from a disordered state of the Blood or Liver.

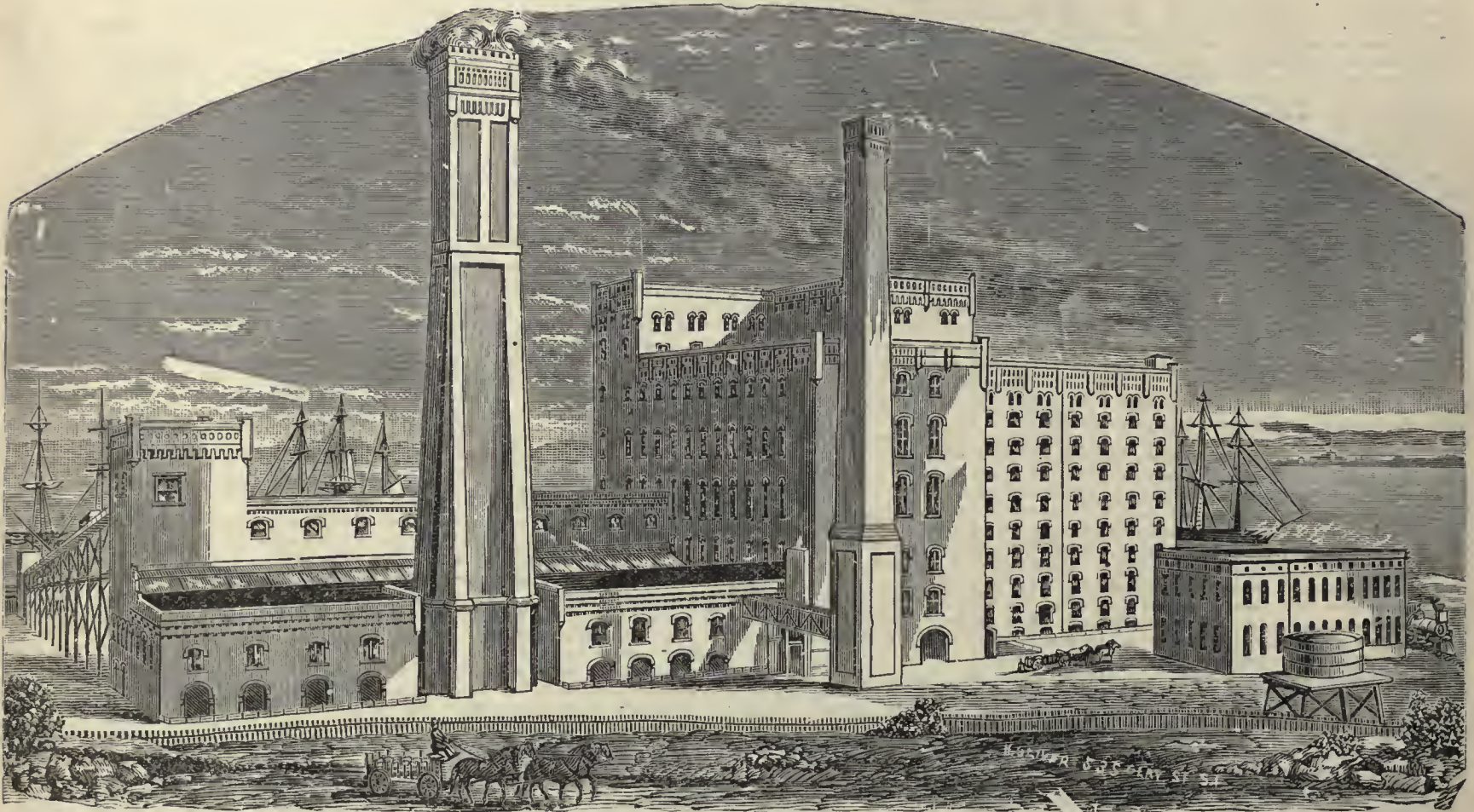
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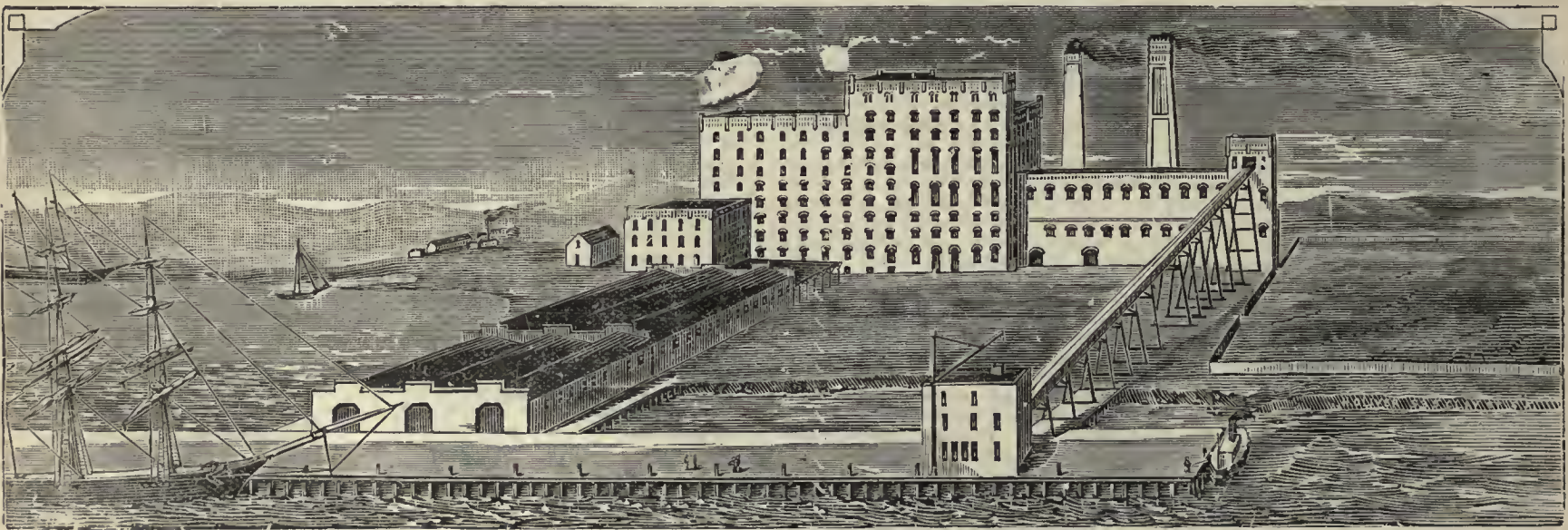
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West View of the New Refinery Building.



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Do. in 5 gallon kegs

Do. in tins, 1 gallon each



The Products of the California Sugar Refinery and guaranteed absolutely pure and free from all Chemicals and Adulterations.

REAL ESTATE.

In another column of the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co., of Healdsburg, and W. H. Barham of Cloverdale, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country.

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

A compact property at Kingsburg, Fresno county, is offered for sale. It consists of 60 acres in young raisin vines, 25 acres in trees and 40 acres alfalfa. On the ranch are two houses besides every necessity for carrying on a well-established farm, and she water right is ample. The lot will be subdivided to suit purchasers. The address is given in another column.

To our list of properties for sale we draw special attention this week, to the announcement of Mr. Wm. Mulligan, who has a young vineyard for disposal. It consists of 171 1/2 acres in Alexander valley, Sonoma county, of which 155 acres are in vines of the following choice varieties, in their third year: Riesling, Chasselas, Black Burgundy, Charbono and Zinfandel. The land is conveniently situated and suitable for subdivision being bounded on three sides by public roads.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

A fine piece of property containing 44 1/2 acres, only three-quarters of a mile from the town of Sonoma, can be bought on reasonable terms on application to George Martin at this office. Forty acres are down in vines, principally Zinfandel, which will all be in bearing next season. Last year \$35 per ton was received for the grapes. There is a house, barn and out buildings on the property which is splendidly situated for a country residence for a San Francisco business man, or it would afford a good living for an experienced viticulturist. Free from phylloxera.

Mr. Martin has also 300 acres of very rich land for sale in the immediate vicinity of Sonoma town. It is believed that this land, upon which a small vineyard has been already planted, will produce fully as much as eight tons per acre under proper cultivation; it is so located as to be handy to the several wineries at Sonoma. It is doubtful whether in the entire valley richer soil exists than that offered for sale, and, with proper handling, should prove one of the best investments in Sonoma County. It is beautifully situated for a residence, and full particulars will be given on application to this office.

In addition to the properties offered for sale in another part of this paper, we draw especial attention to the following, full particulars of which appear in another column: Twenty acres of land on East street, Woodland, Yolo county, which forms a beautiful location for a suburban residence. On account of the bearing vines, fruit trees

and Italian olives planted on the property this will prove a self-supporting country residence. It is only ten minutes walk from the center of the prosperous and well kept city of Woodland and is well worthy of the attention of capitalists.

Messrs. T. H. Cordell & Co of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

THE OLIVE TREE & ITS PRODUCTS

— AND THE —

SUITABILITY OF THE SOIL & CLIMATE

OF CALIFORNIA FOR ITS

Extensive and Profitable Cultivation.

— BY —

JOHN J. BLEASDALE, D. D., F. C. S.

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TWENTY ACRES OF LAND ON EAST ST.,

WOODLAND, CAL.

5 ACRES OF IT IN CLOVER, and

15 ACRES IN MUSCATELLE GRAPES.

125 ITALIAN OLIVE TREES ALONG

80 BARTLETT PEAR TREES ALONG

the drive-way.

the ditch banks.

It is a Beautiful Place. Vines and trees three years old, with prospect of fine grape crop this season.

For further particulars apply at the office of the SAN FRANCISCO MERCHANT, 323 Front street, S. F., P. O. Box 2366.

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BERMEL WINERY,

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For further particulars apply at the office of the S. F. MERCHANT, or to

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FINE VINEYARDS

IN SANTA CLARA VALLEY,

— FOR SALE BY —

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28 North First St. } & { 873 1/2 Market St.
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\$22,000. 80 ACRES IN THIRD YEAR. OVER

65,000 vines of best varieties. Staked.

A very fine property at a bargain.

\$3,000. 10 ACRES IN FOURTH YEAR.

Near Los Gatos. Fine varieties, beautiful

view and a good place.

\$10,000. 40 ACRES ON NORTH SIDE STEVENS

Creek Road. Excellent land and

fine varieties. Set last Winter.

\$7,200. 36 ACRES ON MAIN ROAD IN SEC-

ond year. Splendid land. Good neigh-

borhood.

We have a number of places with

Vines and Fruit Trees for sale. Also

Orchards and Orchard Lands.

Call at Office or write for full particulars. Respectfully

T. H. CORDELL & CO.

FOR SALE!

One of the Finest Young Vineyards in the State.

A LARGE, SQUARE TRACT, BEAUTIFULLY situated, containing 171 1/2 acres of No. 1 vineyard land, bounded on three sides by public road and favorably situated for sub-divisions. This land is in the beautiful Alexander valley, so favorably known for its scenery and climate, in Sonoma county, 17 miles above Calistoga, being 8 miles from Healdsburg, and four miles from Litton Springs station.

One hundred and fifty-five acres are in vines of choicest varieties, this being the third year, and are divided as follows:

Riesling, 45 acres; Chasselas, 24 acres
Black Burgundy, 40 acres; Charbono,
21 acres; Zinfandel, 25 acres.

Other improvements, only nominal, consisting of very large barn for horses, wagons, implements, feed and hay. A small cottage for foreman and family, and house for hired men. This vineyard, so far, has proved to be entirely exempt from spring frosts and needs to be seen and examined to be appreciated. Price, \$60,000. One-half cash, balance on easy terms.

Call on **WM. MULLIGAN,**
Alexander Valley, Sonoma Co.,
dress same at Healdsburg, Sonoma Co.

FOR SALE.

As a whole or in subdivisions

YOUNG VINEYARD AND ORCHARD,

IN TOWN OF KINGSBURG.

Sixty acres raisin vines, Twenty-five
acres trees, Forty acres alfalfa, Two
houses, Two wells, Windmill, Tank,
Barn, Stock, Fences, Implements,
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CITY STABLES,

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Carriages and teams at reasonable terms to all persons visiting the vineyards of the valley.

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VOL. XIV, NO. 2.

SAN FRANCISCO, MAY 8, 1885.

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[Translation from the "Revue des Deux Mondes," published in Paris, August 2, 1884.]

COMMUNICATED BY MR. TIBURCIO PARROTT.

Our financial position may be very easily explained by stating that for a very long time past, as our expenditures have increased, our resources have diminished, and we are unable to foresee anything that will put a stop to this series of years of misfortune.

It fact it is only necessary to cast a glance at the documents published by the Ministers of Finance, and of Commerce, to be thoroughly imbued with the most serious apprehensions.

On the one side, we see our importations of many foreign articles reach figures far above our exports, and the government taxes received from the transfers of landed estates, far below what they should be, even if a normal condition of affairs existed. In a few words France is becoming impoverished; this is the general situation, and if we will only look into details, the statistics furnished by our Minister of Commerce, will show that a wide difference exists, between our imports, and our exports of alimentary articles.

Amongst their alimentary articles, that we used to export, and that we are to-day obliged to import, we see wine figuring at the head of the list. Is this not due to a series of bad vintages? Unfortunately not—and if we still entertain any illusions to this effect, the statistics of our Minister of Agriculture are here to disperse them.

We find in them, in fact, that out of a total area of 5,967,263 acres planted in vines before the appearance of the Phylloxera, 1,886,583 acres have entirely disappeared, and that 1,588,155 acres are seriously attacked. At the present moment we have left but a little over 2,470,000 acres of vineyards. Fortunately or otherwise, the departments that have yielded the largest quantity of cheap wines have been the most cruelly tried; L'Hérault, for example, after yielding one sixth of the entire production of France, has witnessed the almost complete disappearance of its vines. So after the many improvements in the methods of cultivating the vine, the use of insecticides, submersion, the planting of American stocks, the production that has steadily diminished since 1870, has declined from 1,636,800,000 gallons to 792,000,000 gallons.

From that fatal year, France has become tributary to her neighbors, which have been spared of the scourge, and compelled to ask from them at each vintage, the complement of wine necessary for her own consumption.

The total of the imports during these 14 years in question is not less than 939,770,799 gallons of which 666,282,654 gallons come from Spain, and 173,390,224 gallons from Italy.

Let us calculate the sum necessary to balance our account for these enormous quantities of wine, the hectolitre 26.40 gallons which, taking the official figures, is worth an average of francs 41.75 (\$8.35) per hectolitre, or about 32½ cents per gallon, valuing the franc at 20 cents and we reach the enormous figure of \$297,238,306 of which, \$242,397,544.60 corresponds to Spain, and \$54,840,762 corresponds to Italy. The last four years alone have cost us \$238,670,179. Together with this prodigious consumption of wine, we must not omit to point out the importations of raisins, intended for the manufacturing of wine. Of these we have purchased on an average, for the past three years, more than 132,000,000 pounds. Here we have \$5,000,000 per annum to add to the above deficit. At this rate Spain, Italy and Greece have nothing else to do but to profit by the position they are placed in, by our Commercial Treaties, before which we have merely to submit.

This annual decimage of francs 300,000,000, (\$60,000,000) is in itself enough to create the most serious apprehensions. Hence we feel, that we are but discharging a duty in asking our Government to come to the immediate relief of viticulture. Independent of the annual loss of \$60,000,000 there are many other reasons demonstrating the very great urgency for immediate intervention. Shall we allow ruin to overtake us? Shall we wait till our Viticulturalists have witnessed the disappearance of their last resources and our consumers have expended their last savings for foreign wines? Shall we allow the Phylloxera to devastate the 2,470,000 acres of vineyards we have left, before seriously thinking about the re-establishment of the 3,458,000 acres which have already disappeared. It would then be a little late, too late indeed. France would not then be rich enough to stand up under such a colossal effort.

Our vineyards are situated on lands unfit for any other agricultural pursuit, and every new planting of a vineyard requires an outlay equal to the intrinsic value of the land itself. The ground must be ploughed deep, the trees must be grubbed out, and several years must elapse before the first crop of grapes can be taken to the press. In certain portions of France, the southeast especially, where for centuries the custom has been to plant intermediate rows of olive trees in the vineyards, it will be necessary to eradicate these trees, to root them out and by so doing the proprietors will deprive themselves of this auxiliary crop; how will it be possible for them to stand up in the face of such expenses much longer, when they shall have been reduced to misery, and resources of the State shall also have become reduced, as the present state of affairs protrude.

Is it actually possible to prevent one of our chief agriculture resources, from disappearing entirely? We think it is, and this result in our opinion may be brought about by the adoption of a series of measures, of

which, some will serve the purpose of re-establishing the vineyards destroyed as well as preserving those that still exist, and the others that of increasing the annual production. The first measures require direct, and effective help; the second require indirect help, and we will now pass upon them in succession.

Firstly.—The question of the Phylloxera has been badly understood from the commencement—this is certain—but during its first period an error of this kind was excusable. The government and the people found themselves confronted by a new situation, of which, no one could foretell the dire consequences. Many refused to believe in the danger, and then recent successes obtained in the struggle against the oidium furnished grounds to hope for the discovery of a new scientific remedy against the phylloxera. On all sides, scientists commenced looking for the best insecticide, and the government hesitatingly contended itself with distributing a few million of francs, to aid them in their researches, or in encouraging vineyardists, who would consent to experiment with the different remedies. We cannot blame the government for this. We approve of this course up to the day when it was demonstrated, that the most powerful insecticide could not succeed, save in certain exceptional conditions, that the phylloxera continued its devastating march, notwithstanding their use, and had become a truly national scourge. It is from this new standpoint, that we must hereafter consider, and proportion our efforts to the immensity of the ravages caused by the presence of our microscopic enemy. The action of the government from this moment, it seems to us, should have been perfectly defined, and the same steps should have been taken, as if the country had been threatened by the invasion of a powerful neighbor, or by a great industrial and commercial crisis. What does the government generally do under similar circumstances? Does it content itself by withdrawing a few millions from its ordinary budget? Decidedly not; it signals the danger, and the patriotism of the representatives never disputes or dickers with the subsidies that the government may need. Year after year we have borrowed sums for the purpose of replenishing materials for military purposes, for the creation of schools, for the making of canals, deepening of rivers, increasing the security of our ports, the completion of our net work of railways, the subsidizing of steamship lines, the construction of ships in French dock yards, all to the detriment of our viticultural industry, the actual losses from which already certainly exceed \$1,000,000,000.

It is absolutely necessary to aid the viticulturalists from the resources of the State, and to place sufficient funds at the disposal of the Minister of Agriculture, whose ability and good intentions cannot be doubted, but who, up to the present day has only been able to extend but trifling help to viticultur-

ists, who, by official interpolation, have been classed with the victims of incendiaries.

Our representatives in both houses surely do not understand the gravity of the situation. It is the duty of the Minister of Agriculture to expose it to them without reticence, to depict to them the misery of viticulturalists, and to show them the danger already caused, not by a series of bad vintages, but by the destruction of the very foundation of the industry, and to suggest to them to vote for a loan to viticulture. The gentlemen who upheld the programme of Mr. de Freycinet, and brought about a fatal crisis to our industry, will doubtless understand, that the wealth of France will be fatally engulfed by an annual deficit of \$60,000,000.

No loan of this nature could be more legitimate or better received by public opinion; our representatives would prefer to vote for this extraordinary expenditure rather than to consent to see sums less important withdrawn from the ordinary budget, which is already over taxed. Hence, the Chamber of Deputies, and the government itself, have taken steps, so very insignificant, that we are justified in terming them simply ridiculous.

Hence also the new law proposed by Mr. Maurel, Deputy from Var, received a check. His demand was very modest, but it was proposed as a charge on the ordinary budget and consequently had to fail. We fully agree with Mr. Maurel, and we are indeed too grateful to him for having taken the first serious step, not to give a few details concerning his proposed law, that contains the germ of the measures of relief that we ask for.

Here we have in a few words what Mr. Lalande, Deputy and Chairman of the 16th Initiative Commission, thought of the proposition of Mr. Maurel. The limit of this article, we very much regret, will not allow us to give his report in full. After giving a very sorrowful picture of the present situation of French viticulturalists, he continues in these terms:

"That there is a disturbing element in the public wealth that makes itself felt in various ways, and chiefly in the lessened receipt of the Treasury, no one will be surprised at. It is now a matter of surprise, that these results have not been sooner, and more seriously felt.

"But in the presence of such a condition of affairs, we must not allow ourselves to be overcome by idle regrets. We must react with energy, combat the damage done, and remedy the consequences. The interest of the people afflicted, as well as that of the country at large, makes this a patriotic duty."

From experiments made on a large scale for several years past we have not only the hope, but we have implicit confidence that our destroyed vineyards can be re-established by the planting of American vines with the view of obtaining a production direct from them, or of grafting upon them our finest varieties.

The results that have been obtained for several years past, the large vineyards that have been entirely re-established, that are now yielding largely, has raised our courage so much, that it is estimated that 49,400 acres have been replanted this year with American vines.

But many vineyard proprietors, deprived of revenue for a long time past, have no other resources left but their lands, often heavily mortgaged, and they find themselves in a very difficult position to replant their vineyards; they have to resort to credit, and generally it is impossible for them to obtain it.

To put the means within their power is the object of the proposed new law by Mr. Maurel and his colleagues, and we will mention here its first provision.

A sum of 1,000,000 francs is charged to the budget of 1884 as a guarantee of interest on the sums to be loaned to viticulturalists for the purpose of replanting their vineyards with American stocks.

The Minister of Finance was interviewed by the standing committee and declared, that he could not give his consent to the proposition, no doubt on account of the difficulties that this application might bring about and the excessive charge it involved in the annual budget. The Initiative Commission shared these fears to a very great extent.

The standing committee does not think that the proposition, as formulated by its authors, should be adopted by the government; but if the Commission thinks, that the exact terms of the proposed law should not be adopted, it warmly joins in the sentiment, and the thought that inspired it. It adopts the spirit of it. It believes that there is a way to come to the relief of those who have been so severely tried. It thinks that not only justice, but also the interests of the country commands it. It has confidence that the deep study of this important question will permit of practical means being adopted, to reach the proposed object by our honorable colleagues, in the matter submitted for our examination, and at the same time watch with care and prudence the interests of the Treasury.

In short, the standing committee fully agrees in the exceptional gravity of the situation. It believes that it is necessary to extend a helping hand to viticulturalists by procuring for them the means wherewith to replant their vineyards with American cuttings. It adopts the spirit of the new law as proposed by Mr. Maurel, but it will wait before proposing its adoption, till our financial condition will permit it. At the rate we are going on we very much fear that the Commission will have to wait a very long time, and our viticulturalists also.

We have already remarked, that the proposition of Mr. Maurel was a very modest one—it only asked from the budget 1,000,000 francs (\$200,000) as a guarantee for the interest on larger sums, that any financial company might lend to viticulturalists, desirous of replanting their properties with American cuttings. Mr. Maurel remarked with much reason that the assimilation of the vineyardists who were replanting their vineyards with American vines, with the already constituted syndicates employing the sulphate of carbon would place in the hands of these proprietors in sufficient means, amounting to 125 francs per hectare, equal to \$25 for 2.47 acres, or a little over \$10 per acre, and that it was much better to furnish them with the means of borrowing the money required, at a higher rate. This result could be easily accomplished by offering to the lenders, over, and above the guaranteed interest of four per cent by the government, certain privileges on the lands and on the vintages. To avoid, however, all maladministration of the moneys lent, Mr. Maurel thought it necessary that a special agent should be employed in each province to thoroughly investigate each application for assistance, to determine, or define, the limits between which the replanting should take place, to determine the choice of cuttings, and to oversee the planting and cultivation of the same.

Many experiments in this way could be avoided and in a short time the money reimbursed by the proprietors, would constitute a base of supply, that could be immediately used for the replanting of a new series of vineyards.

It is quite evident, that the proposition of the Deputy from Toulon would have facili-

tated the creation of a financial institution founded on viticultural credit. The relief would have been immediate, but would it have been sufficient? We think not, as the capital engaged in these operations would have been held within the limits of interest guaranteed by the reading of the law, and admitting, that each year the government would vote the same amount, it would be necessary for four years to elapse before an amount of francs 100,000,000 (\$20,000,000) would be placed at the disposal of viticulturalists. Besides we must not lose sight of the fact, that the amount that they are now in want of exceeds 1,500,000,000 francs, (\$300,000,000) that the plague of Phylloxera is spreading more and more, and that the resources of the country, and of private individuals, are diminishing every day. It is perhaps for this reason, that the Initiative Commission thought it prudent to reserve the solution of this question, and that it feared to compromise to too great an extent the ordinary budget.

We cannot therefore too strongly recommend to Mr. Maurel to take up again his proposition and to give it all the fullness that is due to the disaster, that it is intended to repair. If the ordinary budget cannot give him anything, let him propose a loan. It is absolutely necessary to decide promptly to make the sacrifice if we wish to replant in proper time with American cuttings the 1,500,000 hectares (3,705,000 acres, already destroyed).

In accordance with the idea first put forth by Mr. Maurel, a part of the loan would be devoted to making advances to viticulturalists, to be reimbursed with or without interest, as the case may be, within the space of six years. The government might not be called upon to advance one cent, if it would only guarantee the interest to the credit Foucier, or to any other financial institution whose risks, in proportion to the amounts advanced, would not amount to anything as they would scarcely be equal to the price of the land above, and the replantings carried on under a strict supervision would double and triple the value of the land. After this period of six years the replanted vineyards being in full bearing, the government guarantee would no longer be required, and the proprietors could gradually liberate themselves by the payment in advance of fixed annuities in accordance with the system adopted by the Credit Foucier.

1st.—The second part of the loan would be used to pay premiums annually awarded during four years to all vineyards composed of American vines at the rate of 125 francs per hectare (\$25 per 2.47 acres or \$10 per acre about). These premiums which would represent about the actual cost of cultivating a vineyard would be paid upon the report of the special agents employed to substantiate that the young vines had been properly taken care of, and they would be refused to any vineyardist who had not bestowed proper care to his vineyard.

2nd.—To give premiums also to all vineyards where efforts had been made for the purpose of preserving French vines, either by the use of insecticides, by submersion, or by any other methods that chance, or science might discover. These subventions should not be given to the same lands for over three years, because by the end of this time it would be known if the vine can be protected against the Phylloxera, or if it must succumb. In this way the range of experiments could be greatly enlarged, and at all events the giving of premiums to vineyards bearing abundant vintages would be avoided.

3rd.—By giving premiums to vineyards that had been re-established by grafting French vines on American stocks and by the layering of these vines.

4th.—By placing in the hands of the Minister of Agriculture a large sum for the purchase of well-rooted, American vines, grafted for one year with French scions. These vines furnished by private industry to be distributed gratuitously to such proprietors who may have already taken advantage of the first advances made from the first part of the loan by the representative of the head office, the latter person would also be authorized to choose the stocks that would be best adapted to the soil. To proceed otherwise would be to fall fatally into the errors of the past by placing the inexperienced viticulturalist in the presence of expensive difficulties of

rooting, and grafting. It would be recommending schools for experimenting that are always sure to end in a loss of time, and money.

In short the proprietor of destroyed vineyards would receive loans or the necessary sums to enable them to prepare their land, and gratuitously the vines necessary for the first planting, as well as the means to meet the expenses of cultivation. So far as the other vineyard proprietors would be concerned they would be obliged to offer three years experience to renounce all subvention or to fall back to the ranks of the first class.

We have not had the pretention in this hasty exhibit to enter into all the details that such a vast organization calls for, but we think we have indicated the chief outlines and shown at the cost of what a sacrifice it is yet possible to re-establish our national vineyard. This difficult task will not be, we hope, beyond the energy of our chambers; the solution by a loan, rests on their patriotism, by the logic of events. "Where there is a will, there is a way." In fact what would we think of an owner of an old estate situated in a fine locality, who would prefer not to derive any benefit from it, but to bury himself in his ruins rather than to contract a loan to re-establish it, and to realize from it, at the same time security, and profit?

After having enumerated in this study the series of measures to take in order to come to the relief of viticulturalists we have yet to develop our ideas on other methods, just as necessary, and quite as beneficent as the first, but the use of which be done one without asking anything from the budget, and without diminishing the receipts of indirect contributions. These are: Firstly—The lowering of the duties on all alcohol intended for the fortifying of wines. Secondly the removal of all duties on sugar to be mixed with the vintage for the purpose of raising, or increasing the alcoholic strength of the wines of the first, and second pressings. These two methods having for an object the increase of the native production seem to us that they should be equally favored during the entire duration of the crisis. Later on they may present certain objections, and for this reason we only propose them (the fortifying of wines especially) as transitory measures.

For the present they are the only remedies that will yet permit the government to re-establish the equilibrium that has been disturbed to the detriment of our people, and to react against the unfair position they find themselves in, on account of our Commercial Treaties already in force. These treaties were concluded with the very worthy purpose of favoring consumers in attracting to our markets very large quantities of foreign wines. We find ourselves compromised by them for sometime to come. But the most confirmed free traders cannot find fault with French producers who find fault with an interior legislation that places them in the most absolute impossibility to cope with their foreign rivals. We will go even further, and will maintain that in signing the existing treaties which lower the custom duty on wines to 2 francs (40 cents) per hectolitre, and raise to 15.9 degrees the alcoholic strength of these imported liquors, the government had the intention of doing what we have asked for in vain for so many years, without that it would have been a most deplorable piece of carelessness or improvidence. Only to mention the last effort to flavor the fortifying of wines, we have witnessed that Mr. Leon Say, Minister of Finance, after having secured by the law of July 19, 1880, a considerable reduction in the duties received by the State on sugar presented to the Chamber of Deputies on the 23 February 1882, a project for the removal of all duty on alcohols intended for the fortifying of wines. His proposition did not receive at the hands of the majority the acceptance that it was entitled to; it failed to pass, not because it was premature, but on account of the inexperience of our representatives in questions of such economic importance.

A great discussion has been since raised on this subject by the proposition of Mr. Bernard Lavergne, and all doubt is now out of the question regarding it; it is not against the rectified spirits of the North that the South wishes to guard herself against; it is the flooding of all France with the alcohols of Germany that must be avoided. (1) Almost everybody knows

that the fortifying of wine consists in an operation to raise the alcoholic strength in the vats in which the fermentation of the grapes takes place. It is done with all sorts of alcohols for the purpose of preserving weak wines, or in order to diminish the duties on them, by making them capable of being doubled by mixing just as soon as they have passed the Custom House, or the barriers of the Oetroit.

Inasmuch as the fortifying of wines is not considered a falsification, and is so carried on, it is only of secondary importance. It is overtly practised outside of our frontiers, and owing to our commercial treaties we are forced to stand it for all the wine of foreign importation as Mr. Salis has said. During the discussion of these treaties Mr. Maurice Bouvier very pointedly called the attention of the Government thereto, and very explicitly warned the Chamber that the consequence would be the fortifying of all French wines. Fortifying goes on, and will go on fraudulently throughout the country until the duty on French alcohols, intended for fortifying purposes, is considerably lowered. This is a great loss to the Treasury as Mr. Tirard, Minister of Finance, declared. Inasmuch as they fortify wines abroad, concluded Mr. Courmeant, why prevent, by an increase in our tariff, the fortifying of wines at home, and thereby enrich foreign countries at the expense of French producers?

This for us is our last question, and it is the standpoint that the Chamber should take in investigating this subject, instead of allowing itself to be influenced by other considerations of higher order perhaps, but contrary, for the time being, to the general interest of the country.

The most serious arguments were certainly not wanting to the adversaries of the plans presented by Mr. Bernard Lavergne, and they developed them with much eloquent conviction from the Tribune of the Chamber of Deputies. We willingly admit with them, that the fortifying of wine is, in itself, a bad operation; that the wines thus fortified, notwithstanding that they may have been fortified with alcohol made from wine, instead of becoming a combination, become only a mixture, in which the alcohol very soon rises to the top; that they lose their bouquet, or aroma; that they become very intoxicating; that they are very dangerous to the public health when they contain impure alcohol. We will also admit that the fortifying of wines, when carried beyond a certain limit is a punishable offense, and the authors should be subjected to the same punishments as are those who adulterate alimentary articles, or who cheat in the nature of the articles they sell. We will tell them however that the fortifying of wines to destroy the bouquet cannot be done with wines that have much value; that it cannot consequently do harm to our reputation so justly established; that it will be exclusively practised to prevent weak wine from turning, or to increase by a few degrees of alcoholic strength our coarse, highly colored wines, which wines very advantageously replace the wines that we receive from Spain and Italy, that have been subjected to the same treatment; that far from hurting the viticulturalists, this measure will enable them to utilize their bad vintages, and besides it will be an easy matter to limit the duration of this measure, to a certain number of years, to be decided by our commercial treaties.

Should wine be considered a natural product? This question seems very easy to answer—it can be answered in two different ways. Affirmatively, if we consider, that the grape contains all the elements of that wholesome liquid. Negatively, if we take into consideration, the changes that take place in the must while undergoing fermentation. After this is complete the two liquids no longer resemble each other. Wine is therefore not a natural product in the strict sense of the word; it is more of a secondary product obtained by fermentation, and by the combination of various ingredients contained in the grape. If these ingredients are in sufficient quantity, and if their transformation is complete, the wine will be of good quality, if not, the taste or the analysis will tell us what principles are wanting in them.

The principal factor in Vinification is without doubt the glucose or grape sugar—without glucose, no alcohol, and conso-

PACIFIC SILK FACTORY.

One of California's Growing and Important Industries.

A Scarcity of California Cocoons—How to Test Silk—Description of the Machinery—Work for Women—An Expert's Opinion of the Silk.

THE MERCHANT having lately devoted considerable space and attention to silk culture, believing that this comparatively new industry will, in the future, be of considerable prominence and importance in California, it was with the greatest pleasure that we recently were enabled through the courtesy of Mr. A. F. Sauffrignon and Mr. H. Van de Castele, to carefully examine and inspect the Pacific Silk Factory, at San Jose, while it was in full working order. The manufacture of silk is one of the most interesting sights imaginable. From the reeling of the threads to their final appearance in a piece of dress material, ready for the adept hands of the dress-maker, there is a series of progressive stages, apparently simple in themselves, yet which it seems difficult to imagine can be so perfectly and accurately performed by mechanical appliances.

THE RAW SILK

Used in the factory is obtained chiefly from Italy, its quality being far superior to the Japanese article. The California raw silk is described by the proprietors as being quite as good and useful for their purposes as the imported Italian silk; their complaint, however, is that it is not obtainable in sufficiently large quantities. This proves conclusively the fallacy of the outcry raised by some ignorant cranks in California that there would be no market for raw silk produced in this State. As has often been clearly proved by the MERCHANT silk can be raised by the female members of a family with profit to themselves and advantage to the State. It should not be regarded alone as a sufficient source of income from which to make a living, but as an adjunct to other farming occupations such as the raising of poultry and butter making which are always so skillfully conducted by women. A few mulberry trees or osage oranges are needed; beyond this the expense is but trivial consisting chiefly in furnishing the necessary trays. Mr. Sauffrignon recommends all silk-raisers to cultivate the white mulberry in preference to the osage orange as its leaf is more tender and contains more nourishment. This endorses the opinion of our Eastern correspondent on Silk Culture, Miss Nellie Lincoln Rossiter, who has written several interesting articles for the MERCHANT on the culture of the white mulberry. The chief requirement for the industry, at present, is a practical filature to spin the silk from the cocoons, the existing establishment in California being insufficient even to reel the cocoons already raised.

IN THE FACTORY

There are now only five looms at work three of which are run continuously for one San Francisco dry goods house which has already established a well known reputation for the excellent material manufactured, and which they retail for \$2 a yard for the first grade. The factory turns out 250 yards of silk every week and is the only institution of its kind on the Pacific Coast,

though there are other factories which make sewing silks and fringes. There are 12 hands employed, seven men, one boy and four girls who earn from \$1.50 to \$2 per day which amount they can increase to \$2.50 a day after acquiring more experience. There is room and machinery enough in the factory to employ 40 hands but the great difficulty is to obtain sufficient raw silk. The price paid for the imported article varies, according to quality, from \$2.75 to \$6.75 per pound—the California silk, if well spun, is worth from \$5.50 to \$6 thus showing that it is as valuable almost as the best grades of imported silk. The demand for the manufactured goods is far in excess of the supply and orders are filled from Philadelphia, Chicago, Portland, Denver and other parts of the Union. Not only can the raw silk be raised by ladies but it can be manufactured by them, thus affording an additional employment for the fair sex and an additional reason for the encouragement of the culture and manufacture of silk in California in furnishing them with another remunerative, and at the same time pleasant occupation.

TRICKS OF THE TRADE.

The raw silk is imported in hanks and has a yellowish-white appearance, feeling quite stiff like hemp. To remove the stiffness it is boiled and this reduces its weight by one-third; this loss of weight is, however, made up during the dyeing process, silk having great absorbing powers, of which dishonest dealers and manufacturers avail themselves to add to the body of their material. For instance, iron can be added to the dye, but, while making the filling or cross threads heavy, it also causes the silk to break and crack. A test to prove whether silk be pure or not, and one which every dealer in and wearer of silks should know, and could easily apply, is as follows: Burn in a flame a small piece of the material to be tested; if it is principally of animal matter, as pure silk should be, it will burn like a feather leaving but little ash, the remains when rubbed between the fingers will resemble charcoal. If, however, the silk has been adulterated and weighted with mineral matter, it leaves, after burning, a yellowish brown ash which is the oxide of iron, it also extinguishes immediately when taken from the flame, while the pure silk burns slowly for a minute or longer according to the size of the sample tested. This is a very simple method for ladies, when buying silks, to ascertain what is worth purchasing and the subsequent expense of making into dresses. A silk of inferior quality will soon "cut" and is not worth the amount originally paid for it, let alone the charges of the costumiere.

THE MACHINERY USED

At the Pacific Silk Factory appears at first sight very complicated, but the clear and lucid explanation of Mr. Sauffrignon enabled us to follow all the details from the making of the threads to the final finish on the cloth. There are three power looms and two hand looms besides the machines for reeling, cleaning or removing irregularities, doubling and making the warps and fillings. Four or five single threads of the silk are used to make one thread according to the size required for the material to be manufactured; they are then twisted or doubled, and afterwards reeled into skeins again when they are dyed any color that may be desired, after which they are ready for manufacture. If sewing silk is required it is wound on to spools, but for weaving it is

wound to make warps and webs. The cleaning machine is a wonderful piece of mechanism. The silk thread passes through two blades, and any obstacle or irregularity in the thread causes the blade to pitch over, and, the machine being automatic, any further winding on that spool is stopped until the irregularity has been removed. The doubling machine is also automatic; five, ten or fifteen threads are drawn from as many spools to make one thread for filling, and should one single thread break, the machine stops, so that any irregularities are prevented. To make the first stage of the cloth, 300 threads are drawn from as many reels, passed through 300 holes on a board, and then drawn on to the drum. This makes one thread of the cloth so that the quantity of silk necessary to make one piece of silk can scarcely be imagined. The machinery was purchased at Patterson, New Jersey, and at Stonnington, Connecticut, costing \$15,000, and has been in use for two years.

GENERAL FACTS.

The average output from the factory, since it commenced working two years ago, has been 30 yards of silk a day. The owners, having the only factory in California for making silk dress goods, have preferred to get their reputation by quality rather than by quantity. That they have succeeded is evident, from the fact that their orders are far in excess of their possible output, the satisfaction of the retailers and the wearers of their goods and the highest favorable opinions that have been expressed at the New Orleans Exposition concerning the appearance and quality of their manufactures. A sample of the black silk made at the Pacific Silk Factory was recently sent to Miss Nellie Lincoln Rossiter, the practical silk culturist of New Lisbon, Burlington County, New Jersey, and she gave her opinion that it was beautiful in appearance and excellent in strength, texture and durability. It is hardly credible what an amount of skill and labor is necessary to produce even a single yard of silk after the worm has done its work, and the silk has been reeled from the cocoons. Messrs. Sauffrignon and Van de Castele deserve every credit for the establishment of their silk factory at San Jose, and introducing another profitable industry into California, and the MERCHANT trusts that their efforts may meet with continued and increased success. There is no longer any reason why California should permit Patterson, New Jersey, to claim all the credit of silk manufacture in the United States.

The Mulberry Tree.

The increasing attention paid to silk culture on this Coast prompts a suggestion as to their value to this branch of industry. Trees three and four years old will yield to the acre 50,000 pounds of leaves, enough to feed 1,000,000 silk worms. Each female produces an average of three hundred eggs. The lowest calculation, one in ten, gives 100,000 females yielding 20,000,000 eggs, weighing 40,000 eggs to the ounce, 500 ounces. Eggs sell at from \$1.50 to \$2 an ounce. The lowest possible yield of eggs per acre is between \$900 and \$1,000. If, however, the cocoons are reeled off, the profits, after deducting all accidents and expenses, are safely calculated at \$2,000. These figures apply to California and the Southern States.—*Resources of California.*

Mr. F. Pohndorff and Mr. C. A. Wetmore have accepted an invitation to address the members of the Cloverdale Viticultural Association at an early date.

MR. HUSMANN'S APOLOGY.

EDITOR SAN FRANCISCO MERCHANT:—In your last issue you made some comments on "A few suggestions and criticisms," which as far as they express only a difference of opinion, I pass by, as of course I am willing to concede the same right to others which I claim myself, viz., "freedom of the individual in thought and speech." But when you accuse me of "an unjustifiable and uncalled for sneer at the French," I beg leave to say that I am not given to sneering, and that no impartial reader could or would find a "sneer" in my expressions; nor was there one intended, as I speak in high terms of the French element in the same paper. I only assert the plain fact, apparent to every one, that a day given to each nationality at a district or general convention, would leave no time for discussions in the English language, and doubt the practicability and wisdom of such a course in an American State, although foreign born myself. As it has been decided on by "the powers that be," that such a course shall be tried, we can afford to wait and see how it works practically. For my own part, I am ready to concede to every nationality its due credit in the common cause of viticulture. It is especially for the sake of harmony, and to avoid all jealousies occurring therefrom, that I think it would be best to adhere to the English vernacular, as the common language of the country, in all our discussions.

GEORGE HUSMANN,

Talcoo Vineyard, Napa, April 29, 1885.

We publish Mr. Husmann's apology with pleasure, and, as regards the "sneer" quote his former words: "Would the French, with all the politeness which is said to characterize the 'Grand Nation,' as they call themselves, accord Americans the same privilege under the same circumstances? I venture to say, no!" We still think that the experiment of a day's discussion in some foreign language is worthy of trial. If it is not successful it need not be repeated, and "the powers that be" will probably not attempt any repetition. We notice that many of our country exchanges strongly condemn Mr. Husmann's action, as also do his own countrymen.—[EDITOR S. F. MERCHANT.]

We select, from a number of our exchanges, the two following opinions expressed by papers published in Napa county, where Mr. Husmann lives, in order to show the general sentiment with regard to his ideas.

Discussions in French.

Mr. Husman, of this county, has caused quite a ripple among the vinegrowers of this State by publishing an article in the SAN FRANCISCO MERCHANT in opposition to the plan proposed of having a discussion on vine matters in the French language at the next meeting of the State Society. As there are a very large number of French gentlemen engaged in cultivation of the grape in California, and as those gentlemen are without doubt the best informed wine growers and makers that we have, having been raised in the home of the vine, it is very evident that a discussion in the French language would be of great benefit to all. Many of these gentlemen are not able to make themselves understood in the English language, but their remarks could be taken and translated into English and thus a vast amount of benefit and knowledge could be derived. Mr. Husmann has made a big mistake in publishing his article slurring the French nation, and is being quite severely censured for it by many editors and newspaper contributors, prominent among them being several Germans. The aforesaid article was ill timed, to say the least.—*Napa Reporter.*

Help One Another.

We had the opportunity of hearing several German-American citizens, grape-growers, express their opinion on the remarks made over Mr. Husmann's signature in an article in the last S. F. MERCHANT—"A few suggestions and criticisms." The Professor disagrees with Mr. Wetmore's intention of convoking a grape-growers meeting for discussion in the French language. There will be few grape-growers, foreigners or native Americans, who will not blame Mr. Husmann for his narrow-mindedness. Why should the numerous French element among California viticulturists not have the opportunity of expressing their valuable experiences in the language which is more familiar to them than English? Mr. Husmann as well as all others, has to learn yet a great deal and any authorized remark on the part of our French brother grape-growers will be an addition or confirmation to our experiences gained. New ideas may be expressed by them, which will give rise to thought. At the same time it will be the opportunity for the French speaking vintners to hear from persons with whom they do not habitually come in contact, some things that may be new to them or confirm their own experience. In short, if all are Americans, tolerance in this great nation is a valued virtue and all reflective Germans who look upon their French co-freers as belonging to their own newly adopted nationality, as their brothers, indeed are free

from narrow envy or jealousy with which Mr. Husmann, with all his professions of Americanism, seems yet imbued. Every German grape-grower in his innermost heart will disavow Mr. Husmann's ideas, but recognize that California viticulture has profited enormously from the experiences of the greatest grape-growing nation—the French. Whoever can express his views in the beautiful French language, will not fail to show his sympathy and love for the industry in common with the French by his participation in the meeting contemplated. —*St. Helena Star.*

The Same Trouble.

Most of the wine farmers in Constantia are selling the grapes in preference to making wine, as their cellars are still full with last year's vintage, and several have commenced sending grapes to the Kimberley market. Mr. S. P. Lategan has taken advantage of Messrs. Stuttaford & Co.'s liberal offer of cork dust for packing grapes, and has sent 50 cases, each containing about 30 pounds of grapes, carefully packed and selected, to Kimberley. The vineyards are splendidly kept, and the consequence is that the grapes are fully developed, evenly ripe, and free from defects.—*Wynberg Times and South African Agriculturist.*

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MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
B D & Co., New York	B Dreyfus & Co.	150 barrels Wine	6975	\$ 2700
M L, New York	"	25 barrels Wine	1240	550
h & F, New York	Kohler & Frohling	10 casks Wine	12104	7000
"	"	19 puncheons Wine		
"	"	137 barrels Wine		
"	"	8 pipes Wine		
G R, in triangle, New York	"	6 barrels Wine	286	155
C M P, in triangle, Baltimore	"	22 barrels Wine	1071	695
G F, New York	Lachman & Jacobi	15 barrels Wine	739	464
F A, New York	"	25 barrels Wine	1251	500
J B, in diamond, New York	"	25 barrels Wine	1241	527
E B & J, New York	"	50 barrels Wine	2411	947
M L, New York	"	25 barrels Wine	1262	565
A R, New York	"	35 barrels Wine	1752	750
N, in diamond, New York	"	25 barrels Wine	1211	649
H, in diamond, New York	"	5 puncheons Wine	814	366
J S, Paterson	"	25 barrels Wine	1250	531
C N, Newark	"	5 barrels Wine	251	153
Goetz Bros., New York	S Lachman & Co.	20 puncheons Wine	3140	1264
B, in circle, New York	"	10 barrels Wine	480	192
F, in diamond, New York	"	25 barrels Wine	1182	473
G, in diamond, New York	"	20 barrels Wine	954	405
D, in diamond, Detroit	"	7 barrels Wine	330	322
"	"	3 barrels brandy	120	303
C C Klumpp, Philadelphia	"	3 casks Wine	265	185
House & Co., New York	"	18 cases Wine	90	134
R W & D Co., Rochester, N. Y.	Arpad Haraszthy & Co	10 barrels Wine	489	250
C & B, Buffalo, N. Y.	"	5 barrels Wine	244	175
L H, Buffalo, N. Y.	"	6 barrels Wine	294	250
Wm T Hawk, New York	Fleming & Stetson	2 barrels Wine	99	100
W W Son & Co., Philadelphia	Walter, Schilling & Co	11 casks Wine	872	436
"	"	1 barrel Brandy	51	127
O B, Philadelphia	"	5 casks Wine	553	330
Total amount of Wine			42964	\$21012
Total amount of Brandy			171	430

TO CENTRAL AMERICA.

C de A, Punta Arenas	Montealegre & Co.	10 kegs Wine	200	160
F O R, Punta Arenas	Bingham & Pinto	6 kegs Wine	120	120
"	"	3 packages Wine	35	27
W T Russel, S J de Guatemala	Hanley & Snow	8 cases Wine	40	34
"	"	7 cases Whiskey		68
Total amount of Wine			395	\$341
Total amount of Whiskey, 7 cases				68

TO PANAMA.

J B, in diamond, Panama	L F Lastreto	1/2 barrel Wine	27	14
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TO MEXICO.

P D & Co., Mazatlan	W Loiza	2 casks Red Wine	118	43
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TO GERMANY.

C PaKrautz & Co., Bremen	B Dreyfus & Co.	3 puncheons Wine	505	300
"	"	1 barrel Wine		

TO ENGLAND.

T E Holland, London	A Haraszthy & Co.	1/2 barrel Wine	26	26
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TO FRANCE.

H Rued, Havre	J C Rued & Co.	1 cask Wine	110	66
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MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	TIG.	GALLONS.	VALUE.
Japan	San Pablo	Steamer	127	\$ 98
China	San Pablo	Steamer	145	145
Honolulu	Alameda	Steamer	982	704
Victoria	Queen of the Pacific	Steamer	100	38
Victoria	George W. Elder	Steamer	225	259
Japan	Oceanic	Steamer	84	65
Tahiti	Raiatae	Steamer	97	158
Honolulu	Mariposa	Steamer	138	141
Victoria	Queen of the Pacific	Steamer	144	57
Mexico	Emma	Schooner	48	24
Total shipments by Panama steamers			44,333 gallons	\$24,300
Total shipments by other routes			2,040 "	1,689
Grand totals			46,373	\$25,989

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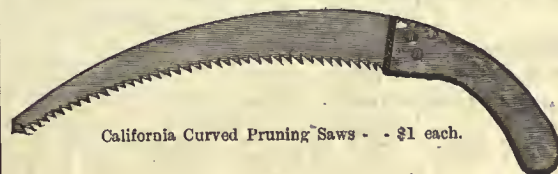
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THE VINTAGE OF 1884.

Notes on Wines Examined at the University Cellar on February 9th, 1885.

[WRITTEN FOR THE S. F. MERCHANT.]

Mondense.—Color kept—deep ruby—taste clean, mild, light, good development; middling resistance to air influence.

Cinsaut.—With proper treatment developing itself and keeping color. Resists air influence, and building itself up readily in not quite filled cask.

Beclan.—Intensity of color preserved. Development slow. Blend of Beclan and Petit Bouschet cleared rapidly, bouquet pronounced, seems to be handled quite easily for development.

Petite Syrah.—Advanced development effected by several rackings; color deep, bright; taste clean; seems to have to be cared for with attention to all requirements for nursing.

Petit Bouschet.—Color deep ruby, develops well, but should be carefully attended to in the cellar.

Lenoir.—Kept its dense color well; taste excessively astringent, but of poor expression as to fruitiness; seems to require blending or to be employed for additioning to other grape juices.

Meunier.—Color and quality impaired. Being from the end of fermentation of somewhat faulty nature, this instance would not be guiding.

Merlot.—Color enfeebled, tardy in development, taste characteristic; seems hardy under adverse circumstances.

Verdot.—Color not deep, taste very good, susceptible suffering if not properly cared for.

Cabernet franc and Petite Syrah blend, delicate in construction, having suffered from air influences.

Cabernet franc preserved its color and developed well; taste frank.

Cabernet franc, Zinfandel and Grossblauer blend, color somewhat faded, sound, and appears resistant to a degree to air influences, for part of what exists has suffered, while other of the same wine in other vessels has not.

Cabernet Sauvignon kept color and showed in all instances the good keeping qualities in its first youth.

Aramon has splendidly developed and intensified its not deep color, is a hardy wine easy to handle in the cellar, as it is completely unaffected by air influences in thin kegs.

Mourastel has very rapidly advanced in its development. Taste full, rich, color deep. Valuable variety.

Clairette rouge was of mouldy grapes. Color deep ruby, taste mild and soft, well advanced in its building itself up.

The Oporto varieties, Mourisco preto, Tinta Cao, Amarella and Moreto, are very hardy and favored by the action of air on them for development.

Clairette blanche both in good and in poor preservation in different vessels, developing quickly under favorable care. Taste decidedly of quality and justifying the good expectations from this variety.

Roussanne requires attention, as in thin staves air access and undue evaporation have acted unfavorably upon some instances, while in bottles kept full it developed very well.

Marsanne is of good development in bottles while in kegs of thin wood the quality is impaired. Will thus require great care.

Semillon and Sauvignon blanc blend, very well developed, a hardy wine.

Muscadelle du Bordelsis of compact bunches, a safe wine and well developed. Same variety of loose bunches also in good preservation.

Sauvignon blanc well developed and improving its delicious quality; requires care.

Semillon and Sauvignon blanc and Muscadelle blend built up very well, unimpaired by being kept in kegs of thin staves. Another keg of the same blend however has been destroyed by that defect of the keg.

Verdelho.—Well developed; is of a nature to withstand air influences.

Pecoui Touar.—Backward in its growth in one keg, while in another keg it advanced nicely. This is a truly good variety and the wine is hardy and easy to keep.

Malmsey of Madeira.—Raised thus far with ullage, has developed quite rapidly, influenced well by air access and because of repeated early rackings off its precipitates.

Ugni blanc in half full bottles kept well and advanced in growth; flavor fruity, taste mild, light.

Beba in bottles loosely corked, white, clear; aroma not strong, taste clean.

Beba in hermetically closed bottles possesses and shows great fineness of flavor and its taste is excellent.

Beba and Peruno blend, well developed, clear, somewhat coarse in taste. Other Beba samples in bottles both loosely and tightly corked advanced well in development—one tightly corked bottle held the wine spoiled.

Pedro Zimenez in loosely corked bottles, not full, well developed, also in keg, of excellent taste and well grown. In one keg the same wine having been kept full, had suffered somewhat. Nursing the wine with ullage would have prevented this, had the grapes been of more advanced maturity, and therefore the wine become richer in alcohol.

Mantuo de Pilas was faulty from the beginning, but had not deteriorated since, but become more firm.

Palomino in vials not full and loosely stoppered since November 14th was found greatly advanced—other bottles half full similar and of characteristic taste and perfume. In bottles hermetically closed development appears retarded.

Palomino in keg with same ullage, fine development, clean flavor, color white. Under the influence of oxygen in bottles color yellowish. The wine of this variety entitles to the highest expectations.

Palomino and Boal blend in full bottles clean taste and good flavor, but the latter not of the intensity it had some months ago. Development in arrear. The wine is promising well.

Boal, Peruno and Palomino blend, stout, coarse, solid, moderate development.

Boal in some vials, not filled, this wine suffered and oxydation seems to have acted on the ethereal flavor disadvantageously, inasmuch as the extremely expressive bouquet, present two months ago, has diminished. In full bottles the wine is backward, but in good preservation.

The grapes were of low saccharine degree and alcoholic strength of the wine also low. It was not deemed advisable at the time to raise its alcohol by fortifying it for fear of injuring its early appearing ethers. This subject requires study in the future. A greater maturity of the grapes will be requisite. We can count upon a most valuable grape in the Boal for Sherry purposes.

The dilemma of rightly lodging small quantities of wines was thus far hard to

overcome. No quantity less than filling a half barrel should in future be made and these vessels have regular sized staves.

The condition of even temperature which Professor Hilgard was applying and continues to apply in the rooms where the wines are stored at Berkeley has saved most of the more delicate wines kept in small kegs, from absolute ruin.

I only could spare one day for the examination of the wines, but the principal ones I did examine and these are embraced in the above list.

February 15, 1885.

F. POHNDORFF.

A BOOK WORTH READING

[WRITTEN FOR THE S. F. MERCHANT.]

In America is Dr. Robert Druitt's little work on cheap wines and their use in diet and medicine. This treatise which, in 1863 and 1864, appeared as a series of articles in the *British Medical Times and Gazette*, was published in a collected form in 1865. Several editions followed. The ideas expressed by the Doctor, have initiated in England 20 years ago the movement of paying attention to pure, unfortified wines, the importation and consumption of which is an annually growing one, to the neglect comparatively of ardent liquors. Dr. Druitt is not the founder of a school of partisans for light wines. He is one of the many intelligent medical men who discern between light wines and the heavier beverages in England. That partisanship embraces whole nations. A hundred millions of individuals form this school practically. Dr. Druitt expresses facts scientifically and intelligibly. His words were understood and heeded. This is his great merit.

In his Preface he says, in 1872: "Of the wines in America I know nothing, but witness with delight the effort to make them take the place of the firebrand whisky, and so to deliver that great and energetic people from the incubus of intemperance."

A man who thus expresses himself, who is known to be an eminent medical man, competent to discuss the subject "wine" better than the thousands of the faculty, who, in America, have not investigated nor know it so well as Dr. Druitt, cannot be suspected, but must be heeded as an authority. He is an acknowledged benefactor in his own nation. His persuasions, which are established facts, confirmed by the experience now of thousands of men of science and hundreds of thousands of educated persons in England, should be weighed in America. They should be studied by those well meaning people, who, from the desire to do their best to carry temperance in the ranks of the many victims of alcohol, but with one-sided opinions about wine versus distilled drinks, advise the total banishment also of the former.

The movement now on foot in several States to instruct children in the public schools on the evil effects of the use of alcohol and of tobacco, surely a laudable movement, every one ought to second. But we insist upon the necessity, that those called to instruct be first well versed on the subject. Every teacher should instruct himself in the nature of the different beverages, and acquaint himself with the opinions, facts and doctrines entertained and experienced for ages in other civilized nations.

Dr. Druitt is only one of now quite a number of medical men in England who have argued the pro and con of light wines. There exists a literature on the matter, which, after all has to acknowledge that the

decrease of drunkenness in England, has for its principal cause the increase of the consumption of natural light wines. Substituting milk, water, coffee or tea for wine, the humanitarian will argue, the progress of sobriety would be still more furthered. The counter-reply to this should be gathered from the writings of men who know the subject well. Let it be your object to study the reasons why Dr. Druitt affirms "that wine is a tone food. When the test-tube and the balance can detect the difference between happy and an unhappy man, then chemistry may explain the effects of wine, but not till then." A man who knows a great deal of wine and whose honesty and sobriety are known, wrote that assertion. Ready as a hundred contradictions may be against that sentence, none will prevail. A million of facts in lands where fermented drinks are considered superfluous, but wine as legitimate and beneficial a family drink as milk, will assert that the prohibitionists must needs look farther to find the truth about wine, this best ally of the friend of temperance.

F. PDRF.

EFFECTS OF THE FROST.

EDITOR MERCHANT:—I notice your last issue April 24th, under the head of Effects of the Frost, credits San Joaquin valley as having felt the effects of Jack Frost very severely. I do not know who your informant was, but he certainly must have slept cold and was dreaming. The only cold night we have had to come anywhere near rousing us out for smoking was on Thursday last week, April 14th. At 2 A. M. of that night our self-registering thermometers reached 38 degrees under a strong north wind. From that hour the wind quieted down somewhat and the air became gradually warmer towards morning. At sunrise the thermometers registered 42 degrees which figure it again reached Sunday night April 18th. I heard there never has been a case of danger by frost in this section and from the nature of the country, I should judge that such dangers never need be feared in a large open country like this where gentle night winds prevail and where the days are quite warm in March and April.

Our rain gauge to date measured 7.75 inches at Barton vineyard for this season, sufficient to put our ground in perfect condition without irrigation, in fact this vineyard has required no artificial watering for the past three years, and nothing of the kind will ever be necessary again as long as the present level of moisture can be maintained with our annual rainfall of say 8 to 10 inches. This does not mean that irrigation is not necessary in this country, but it does mean that vines and trees are better off without it, after the first two years. Experience teaches many things, and we find that nothing can be successfully started without great risk the first two years without artificial watering. We find also that lots of trees and vines and constant cultivation is changing the climate from an extremely dry furnace-like air in June, July and August to a more moist atmosphere and with such a change we shall have more natural moisture. Barton vineyard to-day, looking from an elevated point, presents a perfect picture of beauty not often seen any where, and I consider our season thus far has been about perfect.

PETER MAGETTI,

Foreman Barton Vineyard.

April 24, 1885.

FERMENTATION.

Remarks of George Husmann at the Third Annual Viticultural Convention.

Mr. President, ladies and gentlemen. It can hardly be expected after listening to so many eloquent speakers as we have had the privilege of doing and somewhat at the tail end of the discussion that I should tell you a great deal that is new or striking about fermentation or other subjects connected with wine making. However, we all have our theories, we follow certain practices, we have our own opinions, and as mine are based on a somewhat long experience, including a period of 35 years, I will give them for what they are worth, submitting to your kind consideration and your judgment. There were several ideas thrown out by the speakers yesterday from which I must differ. Mr. Wetmore was taking one side of the question and Professor Hilgard the other. While listening to them with the greatest attention, and appropriating all that I thought I could use for my practice I came to the conclusion that I would steer about a middle course between the two, or rather I have been steering that for some time. Professor Hilgard advocates the establishment of large wineries. Mr. Wetmore advocates the practice of every wine grower making his own wine. Now there are certain great advantages connected with large wineries. We know that they can handle the product on a cheaper scale. We know that they have greater facilities by using machinery, large rooms for fermenting and at comparatively little cost that a small quantity would be. They can necessarily work much cheaper, while the large amount of produce they handle gives them also the facility for making a uniform product. On the other hand a small wine maker must work under great disadvantages, I must say, however, that my sympathies are with the latter class, because I have had to work in that manner from the pick and shovel up. But it is not always in the way that our sympathies lead that we ought to travel, but in that way which is the most practical and which leads to the best general results.

We all know that the small wine maker has to provide for his small crop, after working three or four years to establish his vineyard to produce a crop. Then for him to go to work and set up buildings, however cheap and light they may be, to purchase the necessary casks, apparatus and all that pertains to wine making, on however rude a scale, will be a considerable expense and take all the ready means he can realize from the first or second crop he can get from his vineyard. Therefore, my advice to the small vine grower would be, while I would like to see wine making general and generally understood, to dispose of his crops for a year or two at least to the neighboring wineries until they can get capital enough for easy means to furnish casks and all apparatus of wine making. If they do it before that time, and go into all these expenses before they are fully able to meet them, they will always feel encumbered and never be able to work ahead satisfactorily. Mr. Wetmore justly remarks that anyone ought to know enough of the science of wine making to be able to make his own wine. I acknowledge the justice of that remark but naturally we find that a great many of our vineyardists, who commenced with small means, and who are laborers, have not the necessary intelligence nor the necessary appliances. They work hard all day, sometimes all night as I know from bitter experience, and they hardly have time enough to read up and carry into practice, and before they can advance so far as to do all this they must suffer a long and tedious privation. In fact we have a great many among us, and I think I may so say without seriously depreciating the wine-makers, who have not the first idea of true fermentation. They make wine and it may happen that they make fair wine and even good wine, but it is certainly not their fault. They do not even know the first principle of fermentation and if they succeed it is more their good luck or their outward fortunate circumstances, than really their knowledge of the business. All this we should take into consideration before we advise our vine-growers to make their own wines. When the time comes that vine-growers are all getting wealthy, as I hope it will, then is the time to go into building wineries.

Until that time I should advise that they steer the middle course. Get together in some neighborhood, wine-men, so far as they can be gotten together, all having the same purpose. Select the choicest varieties of grapes, plant your vineyard and as soon as you feel able, or if one of you have more means and has the necessary knowledge let him establish a winery and let his neighbors sell their products to him, always reserving of course to themselves the privilege of running their own concerns when they shall get ready.

I will now come to fermentation itself. In the views advanced yesterday I could find a great deal that I could heartily recommend and a great deal that I would not, or rather not adopt at least for my own purpose. I hope though that you will take these remarks for what they are worth. I have got too old to believe that I know everything or know even a great deal. The older I get the more I find out how little I do know and I find out little by little and by advancing step by step, and I hope you will not put undue weight on any of my remarks, but simply take them as the views of one who has rather worked his theory out of his practice than at first made a high spun theory and practiced on it afterwards.

My theory has been built up step by step from practical results. I have handled perhaps fifty or sixty American varieties in wine-making and I made say 15 or 20 of the Vinifera varieties and I have drawn my own conclusions. As to fermentation itself I think it is a very simple thing and I have never found it wanting in any of the grapes that I have handled, if the necessary degree of warmth and other circumstances were favorable. The germs of which Mr. Wetmore was speaking last night I consider present in all grapes that we have to handle, at least I have never found them wanting, and if the temperature was kept pretty even I have found no difficulty in fermentation. I think, without exaggeration, that I have never had any milk-sour wine or wine that refused to go through. Mr. Wetmore tells you that everything depends on the germs that you put in the must.

Mr. Wetmore.—Not what I put in but what are in there, and if they are not there, I say put them in.

Professor Husmann.—I stand corrected. I think, however, to develop these germs properly, to put them into active life, certain conditions of warmth and moisture even are necessary, and if they fluctuate too much you will have an imperfect fermentation. Now in the fermentation of red wine I generally get my red wines through all the violent fermentation in from four to five days, not as Mr. Portal has told you in 24 hours. My criterion for drawing them off is when all the sweetness in the must has disappeared and when only the bitterness of the vinous fermentation remains with which we are all familiar. I also must steer a middle course in the handling of the wines in the tanks. Tanks with perforated bottoms have been advocated here, others have advocated aeration. I have come to the conclusion, after trying them all, that aeration by frequently stirring the must, while it is fermenting, is a most powerful and even factor in promoting fermentation. When I have my grapes in the fermenting vat I have them stirred about three times a day thoroughly stirred and mixed, and sometimes if I find that the temperature in the lower part of the vat will not rise quick enough I draw off some of the juice and put it on top so as to make the temperature throughout as even as I possibly can. It is a fact which you all know that the action of the air on the top of the fermenting vat warms the upper part of the must quicker than it does the lower part. I would also advise rather shallow than deep fermenting vats, because I can stir them better. A great many have objected to wide vats as they say they evaporate too much. I do not see that as long as active fermentation is going on there is any danger of the wine becoming flat, or indifferent from the action of the outer atmosphere, for as long as carbonic acid gas escapes in sufficient volume to exclude the outer air there can be no bad effects upon it because the air has no access to it. I utterly discard the perforated bottoms to which mention has been made. I object to putting the whole mass, so to say, imprisoned, and

leaving it in the same condition, and allowing the whole mass to work out its own salvation. I think that the fermentation on top becomes violent and is slow below. And besides I have seen the practice is generally followed in this city of allowing red wines to remain, sometimes for two weeks, in the fermenting vat until they had become perfectly quiet, until even a scum of mould is found on them the thickness of a finger. I do not see how any rational man can treat his wine in such a manner. I cannot see the advantage of it in any way. It can only serve to make the wine flat, inert and undesirable, for certainly as soon as violent fermentation is over and outer air has free access, every hour you leave that wine in the fermenting vat tends to deterioration. My practice therefore has been to stir the must thoroughly three times a day, mixing it thoroughly from top to bottom and I have never found any difficulty in getting through my red wine in the time I have mentioned.

The matter of closed casks was brought up last night and I may say that I have tried that also and with very beneficial results. I believe that if you have a wine that has not too much tannin and astringency naturally, and you desire more tannin and color, it is very beneficial to leave that wine on the husks, but in that case I would put on a tight top with a bung hole to allow the carbonic acid gas to escape as long as there is any developed and then close it up tight. In that condition you can safely leave it three or four months if necessary, and under certain conditions that may be beneficial. But that is very different from leaving the whole surface exposed, which must necessarily kill and deaden the wine. I think I have tasted a good many samples here that I would class as being fermented to death or rather left too long in the fermenting vat, and that process has taken all the life and all the spirit out of it. You taste in such wines nothing but a certain amount of tannin and a certain amount of acids and water, but there is certainly nothing of the refreshing taste or sprightliness about them that good wine should possess. With white wines, I leave them 24 hours on the pomace until fermentation has actively set in, and impated some of the natural bouquet and flavor of the grape through the whole mass, then I draw them off and press them, then fill them into the casks and let them finish their fermentation there. It would hardly be prudent for me, when there are so many of the knowing ones here, to discuss which are the best varieties that we should have for our wines. I do not suppose that this is included in the discussion we now have, but I cannot close without concurring heartily in the sentiments expressed by Professor Hilgard yesterday, that while we do not know fully what to plant, it is very lucky for us that all of us can plant American vines which will give us a couple of years longer to determine what we ought to graft on them. I think you will find that will be our only salvation in this State, the American vine. And if we plant it to-day and wait for further developments, and make our choice carefully we shall certainly not lose any time.

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FRIDAY.....MAY 8, 1885

RECOGNITION.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.

Proprietor S. F. MERCHANT. — Dear Sir: Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.

Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural interest in the State, an exponent of their views and aids advocate of their interests, and, moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished.

Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandise who wish to call our attention to their goods, aid us and other Viticulturists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.

Be it further resolved that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.

C. F. RIGGS, SECRETARY.

CALIFORNIA WINES FOR GUATEMALA

Another good field for the sale of California wines still remains unworked in Guatemala. A leading business man from there has been recently inquiring why no attempt has been made to open up and push the market. This gentleman is a large grower of sugar and coffee which he ships to San Francisco and in return for his produce he desires to obtain light clarets or California-wines generally. He states that the demand for such high class goods would be considerable and expressed his surprise that no real attempt had been made to introduce them. Individual wine-makers would probably not make the attempt, but, under a system of co-operation, such as has been advocated by the MERCHANT, there would be little or no difficulty to overcome. We have certainly two unexplored territories close at hand, viz: Guatemala and Honolulu, and, with the present large stocks on their hands, wine-makers should avail themselves of every possible opportunity for the disposal of their goods.

Hon. Samuel Parker, the Hawaiian Commissioner to the New Orleans Exposition, says that the Louisiana planters were surprised at the superior quality of the Hawaiian sugar exhibited.

HAWAIIAN TRADE.

Increase in Our Wine and Fruit Shipments.

The growing importance of our trade with the Hawaiian Islands becomes more apparent the more the subject is carefully considered and examined. The report of the Bureau of Statistics for the quarter ending December 31, 1884, goes exhaustively into statistics relating to the commercial relations between the United States and the Hawaiian Kingdom from 1871 to the end of last year, and also publishes the annual statements for 1884 of the Hawaiian Collector-General of Customs.

In 1871 our total import and export merchandise trade with the Islands was \$2,001,859. In 1876, before the passage of the Reciprocity Treaty, it amounted to \$2,146,343, showing an increase in the five years of only \$144,484. Since then it has gradually and steadily increased until, last year, the aggregate trade was \$11,449,318—more than five times as large as it was in 1876. The total imports and exports of gold and silver bullion have increased from \$45,506 in 1876 to \$1,119,566 in 1884.

As many readers of the MERCHANT are interested in the California wine trade we have summarized the shipments of California wines to the Islands since 1871. Thus:

CALIFORNIA WINES EXPORTED TO THE HAWAIIAN KINGDOM.

Year.	Gallons.	Value.
1871.....	1,060	\$1,961
1872.....	1,247	1,777
1873.....	1,636	2,633
1874.....	1,054	1,354
1875.....	651	1,078
1876.....	738	1,016
1877.....	2,028	2,091
1878.....	1,013	572
1879.....	1,681	1,519
1880.....	2,302	1,708
1881.....	3,923	4,526
1882.....	1,250	1,312
1883.....	2,725	3,190
1884.....	5,160	6,734

These figures are interesting and show that while our California wine shipments had decreased to 738 gallons of the value of \$1016 in the year 1876, before the Reciprocity Treaty was ratified, that they have since increased, within a period of eight years, to an export trade of 5160 gallons of the value of \$6,734—an increase of 4,422 gallons or over six hundred per cent in quantity, and of \$5718 or over five hundred per cent in value.

Further interesting figures can be obtained from the statistics of the fruit shipments. Thus:

CALIFORNIA FRUITS EXPORTED TO THE HAWAIIAN KINGDOM.

1871.....	\$11,084
1872.....	9,449
1873.....	5,355
1874.....	14,813
1875.....	9,826
1876.....	10,259
1877.....	15,271
1878.....	14,566
1879.....	26,497
1880.....	25,004
1881.....	35,175
1882.....	37,822
1883.....	55,188
1884.....	50,594

These figures are even more striking and conclusive of the value of the Treaty to our agricultural industries. In the six years' fruit export trade, prior to the ratification of the Treaty, there had been a decrease of rather more than a thousand dollars in the value of the fruits exported. Since that time the export value of the fruit trade has

increased from \$10,259 in 1876, to \$50,594 in 1884—an increase of over \$40,000. The population of the Islands has been steadily increasing for the past six years, mainly through the large arrivals of foreigners who are wine and fruit consumers. It is evident then that a continued extension of the trade in these, our staple productions, can be anticipated with the Islands, and it could be further increased by direct shipments made on the part of fruit growers and wine makers, without the intervention of middle-men who absorb so large a portion of the profits and proportionately increase the price to the consumer. The country press should see that it is to the interest of the classes they represent to endeavor to foster and increase this growing trade.

The following table gives the values of the domestic and foreign exports to the Islands since 1877, when the Treaty came into force. They show an increase in value of \$2,300,000 in 1884, as compared with 1877, in our domestic exports, and a decrease of over \$86,000 in the annual value of foreign goods exported to the Islands in the same period, proving the fact of the increase in the exportation of American goods and the decrease in the exportation of foreign goods since the Treaty:

EXPORTS.

Year.	Domestic.	Foreign.	Total.
1877.....	\$1,109,429	\$163,520	\$1,272,949
1878.....	1,683,446	52,653	1,736,099
1879.....	2,288,178	86,740	2,374,918
1880.....	1,985,506	100,604	2,086,170
1881.....	2,694,583	83,489	2,778,072
1882.....	3,272,172	78,603	3,350,775
1883.....	3,683,460	92,605	3,776,065
1884.....	3,446,024	77,329	3,523,353

The next table that we present gives the value of the exports from the Pacific and Atlantic Coasts respectively, from which it will be seen that the San Francisco trade with the Islands is almost seven times as large as that of the Eastern States, while the combined export trade from the Pacific Coast is eight times as large as that from the East. This forms another argument in favor of the great benefits derived by California from this Reciprocity Treaty. Thus:

EXPORTS.

Year.	PACIFIC COAST.		Atlantic Coast.
	San Francisco.	Other Ports.	
*1876.....	\$ 641,743	\$74,607	\$92,907
1877.....	1,183,556	104,671	172,235
1878.....	1,378,755	160,743	296,851
1879.....	2,087,591	198,452	223,855
1880.....	2,180,182	168,401	197,237
1881.....	2,324,634	195,791	473,802
1882.....	2,835,753	206,076	308,946
1883.....	2,969,915	278,660	527,490
1884.....	2,779,229	330,468	413,656

*Before the Treaty.
The Hawaiian Treaty came into force, as before stated, in 1877, and the figures for 1876 are given in order to show the sudden and great increase in our export trade with the Islands even in one year. From 1876 to 1884 there was an increase of \$2,137,486 in the export trade of San Francisco alone in this connection; other Pacific ports show an increase of \$255,861 export trade within the same period and Eastern ports show an increase of \$320,749. These totals give a net increase in our export trade, within seven years, of \$2,714,096.

Continuing our comparisons in another direction we give the following statistics of the exports from San Francisco for the month of April, 1885. These figures show that the Hawaiian Islands stand third on our list of consumers. Our exports to Great Britain of course consist of grain, but, taking into consideration the comparative population of all the countries quoted, it will be

found that the Hawaiian consumption, per capita, of American goods is far in excess of that of any other country. Thus:

EXPORTS FOR APRIL, 1885.

To—	1885.
Great Britain.....	\$1,604,745
China.....	492,624
Hawaiian Islands.....	174,457
Mexico.....	128,497
Japan.....	112,617
British Columbia.....	102,463
Australia and New Zealand.....	92,171
Russian Possessions.....	75,299
Central America.....	55,810
Holland.....	40,383

A summary of the merchandise exports from January 1st to April 30th of the present year, gives the following exhibit. Thus:

1885, TO APRIL 30.

To—	Value.
Great Britain.....	\$9,997,302
China.....	1,266,346
Hawaiian Islands.....	714,838
Mexico.....	500,515
British Columbia.....	397,276
Australia and New Zealand.....	389,135
Japan.....	288,772
Central America.....	199,965
France.....	136,742
Society Islands.....	129,857
Panama.....	109,125
Russian Possessions.....	98,916

We do not consider it necessary to expatiate further upon the figures that we have published, they speak for themselves. The readers of the MERCHANT, especially those who are interested in fruit growing and wine making, by comparing the totals of our export trade before and after the Ratification of the Hawaiian Treaty, cannot fail to see the growth of our trade with the Hawaiian Kingdom and its great importance to California.

OUR PORT AND HARBOR CHARGES.

The problem regarding the port and harbor charges of San Francisco is still unsolved. It is to remain the cruising ground of land pirates who place embargoes upon trade and commerce, under the sanction of law, and the flagrant abuses in the Harbor Department, the pilot establishment and the tug-boat monopoly are to be continued. The Chronicle endeavored to effect good work in exposing the movement by the battalion of political strikers, employed taking toll on the city front, in raising a purse to prevent the passage of Lynch's bill abolishing their offices and freeing commerce from their exactions. Of course the "bosses" fought to maintain the existing order of things which enabled them to control numerous lucrative appointments. It is hardly likely that the present harbor employees will imitate the example of their predecessors and steal the public money. The pilotage question, as explained in previous issues of the MERCHANT, is worth \$45,000 a year to the old tug-boat monopoly to prevent the passage of any law abolishing the iniquitous compact between itself and the pilots, and compelling the latter to fairly earn their fees which they do not even pretend to do at present. This is a glaring abuse and the trade of the port is being ruined by the exorbitant imposts levied, under various devices, by the tug-boat monopoly.

The Alameda County Reporter says that Mr. Gallegos has just received a consignment of choice grape cuttings direct from Bordeaux, France. They are the Tannat variety and came via Panama, and were enclosed in large boxes lined with tin, and hermetically sealed.

CALIFORNIA WINE SHIPMENTS.

THE MERCHANT gives to-day, the shipments of California wines by sea, for the month of April, 1885. The total aggregates 91,229 gallons, valued at \$50,392. The average monthly shipments by sea for the year 1884 were 97,948 gallons, consequently last month shows a decrease of 6,719 gallons as compared with the average monthly shipments of 1884. Our April exports of California wines, compared with previous months of this year, are less than those of January and February, but greater than those of March, when only one Panama steamer left this port. Further comparisons show that there has been a marked increase in the shipments by sea from San Francisco by other routes than the Panama steamers, the average of which for January, February and March, was 4,571 gallons, while April shipments aggregate 6,177 gallons. This is a fair indication that our wines are gradually finding their way into foreign markets, and that the wine-makers and merchants are extending their trade beyond New York :

BY SEA, APRIL 1885.		
To—	Gallons.	Value.
Asiatic Russia.....	2,926	\$2,753
Japan.....	547	369
Mazatlan.....	545	321
Honolulu.....	435	370
Mexico.....	409	475
Marquesas.....	325	152
Victoria, B. C.....	247	205
Papeete.....	203	128
China.....	197	143
Apia.....	148	104
Kahului, H. I.....	103	97
La Paz.....	47	29
Canton Islands.....	35	90
Liverpool.....	10	25
	6,177	\$5,261
By Panama line of steamers..	85,052	\$45,131
Total.....	91,229	\$50,392

QUARTERLY RETURNS.
A comparison of the California wine shipments by sea for the first three months in 1884 and 1885, shows a decrease for the present year of 62,192 gallons. There is an increase of 4,880 gallons in shipments by other routes than the Panama steamer line, which shows the large falling off of 67,072 gallons. Statistics of shipments by rail, which may alter the totals, have not yet been received.

FIRST QUARTER.		
	1884. Gallons.	1885. Gallons.
By Panama steamers.....	356,255	289,183
By other routes.....	8,833	13,713
Total.....	365,088	302,896
Total decrease 62,192 gallons.		

The Sugar Market.

Since the publication of the last issue of the MERCHANT, there has been a drop in sugar prices, on the part of both refineries, of a quarter of a cent per pound. On Tuesday last this reduction was followed up by a further fall of a quarter of a cent on Whites, on the part of the American Refinery. Their rates for Yellows remain unchanged. The only presumable reason for this solitary drop of the American Refinery is that they are very anxious to effect sales of their stock on hand in anticipation of a further fall in the price of this necessary commodity. As Eastern and European advices report an "advancing tendency" in the sugar market, and the impossibility of replacing present supplies except upon a higher basis of values, it is extremely probable that American Refinery prices will soon rise, possibly even above those of their antagonist. Sugar, at present rates, pays neither the grower, refiner or merchant.

Please notify this office of an irregularity in receiving the MERCHANT.

CALIFORNIA WINES AND FRUITS FOR NEW YORK.

Mr. William Osborn, of the firm of John Osborn, Son & Co. of New York and Montreal, called at the MERCHANT office this week. Mr. Osborn has just visited Los Angeles, Fresno, Sonoma, Napa valley and Sacramento, and, although he will not express the usual stereotyped opinion that each county is the best he has ever seen, yet he has given us some valuable suggestions as the result of his travels in this State combined with his Eastern experience. Such a combination of opinion should be useful to us, especially as Mr. William Osborn's firm has been engaged, in New York, in the wine importing business for the last fifty years; his father, the late Mr. John Osborn, the founder of the house, established himself in the wine growing and shipping business in Oporto, Portugal, some ten years previously. Like all other New York importing houses they have never handled any California wines; but the growing importance of our great industry has caused them to turn their attention to the products of the Pacific Coast.

In our interview with Mr. Osborn that gentleman said: "California wines are not looked upon favorably in New York, as they have not been placed in the right channels, neither have they been properly introduced. Some of your wines have very good merit and are certainly more pure and wholesome than most of the cargo claret imported at New York and which is now being shipped from Bordeaux. The great trouble with most of your winemakers is that they desire to make every wine that is produced in Europe, which is an impossibility. Let each vineyardist make his own special wine, as in Europe, and take pride in what he makes. Thus the Eastern market can be assured of good wines grown in soils and climates suitable to certain varieties of wines; we will also be able to receive pure wines from the vineyards and not the 'cooked-up' wines from the San Francisco cellars. If you have a pride for what California can do, put your best feet forward; don't copy France, Spain or Portugal, but send a California wine of which you can justly be proud. You will then be in a position to compel the transportation companies to make their freights to the East, both by sea and land, at a fair and reasonable figure, and I feel confident that New York will be the largest and best gold mine for California."

The firm solicits correspondence from winemakers throughout the State, also for California fruits and general produce. They will handle all goods as they are received, and request the shipment only of such goods as will establish a reputation.

A correspondent at Cordelia writes that the country extending within 10 or 12 miles, in different directions from that town, has been but little hurt by the frost. Most of the vines nipped were young and would not have borne this year. He estimates an increase in this year's vintage, over the last, of 25 per cent.

The imports of raw silk at the ports of New York and San Francisco for the month of March, 1885, were 2,031 bales, valued at \$1,243,723. Imports of waste silk, pierced cocoons, etc., in same period, were 199 packages, valued at \$53,071.

THE NAPA VALLEY WINE COMPANY

Has just opened a Branch House on Front street, close to the MERCHANT office. The general manager is Mr. E. C. Priber, the agent in charge is Mr. Fred. M. Otis, and the cellars and head office still remain at St. Helena. An examination of the premises of our new neighbors discloses a large warehouse fitted with every modern convenience suitable for the purpose for which it is intended. The local storage capacity is 10,000 gallons; the coeprage will all be made at St. Helena; the company will fill orders from a gallon upwards in all varieties of wine though their specialties are clarets and white wines. The company will be represented by travelers throughout California, the Southern and Eastern States, and they feel that the demand for good quality California wines and brandies necessitates a closer connection with the center of trade on the Pacific Coast. As the members of the company are prominent grape growers and wine-makers, their object will naturally be to build up and maintain the reputation of their products by offering to the public pure and well matured wines under California labels and not, as has been practised on this coast, under the guise of foreign labels. If this organization can succeed in inducing the wine drinker to believe that the California wine that he has been consuming for years past, under a foreign label, will taste equally as well under its genuine and honest California label, they will then have effected a great and permanent reform in our wine industry and will fully merit the success that is wished them by the MERCHANT.

FELIX ASTRUC'S STUDIES ON AMERICAN WINES.

[SECOND PART.]

Riparia seems to be preferable to Jacquéz as a grafting stock, the former being also a surer grower. The coloring power of the Jacquéz is enormous, but the supposition held some years ago that for that reason it was a very valuable acquisition for French vineyards must become a myth, since Mr. Bouschet's new hybridisations the Jacquéz is superfluous, and the Alicante Teinturier, Henri Bouschet, is thus infinitely superior. The Othello has retaken its lost ground this season. One of the great proprietors at Montpellier, who had five or six thousand Othellos, now seven and eight years old, did not fear to plant 125,000 Othello roots. The wine of that gentleman from his Othello vines is of a fine, deep color, with 10 to 12 per cent alcoholic strength; its flavor is slightly raspberryish. The Othello yields 2,600 gallons per 24 acres in the south-east, where the resistance of that vine is confirmed. It grows on the plain as well as on hills, and grows easily. The wood, however, requires the assistance of stakes against the wind. The variety will no doubt be in great demand in the next few years, for its wine is direct a good one, and economy will necessarily calculate the avoiding of grafting on this resistant stock. The creation of hybrids among French and American good direct producing varieties, will be one of the first and most useful problems to be solved in the interest of French viticulture. No opinion is emitted on the Rupestris, Nos. 60 and 70, vaunted by the American prospectus as productive of color, quantity and quality direct. Ten francs per cutting in America, on board, package free, is rather a fancy price.

CALIFORNIA WINES.

Their Influence on Foreign Importations.

[TRANSLATED BY THE S. F. MERCHANT.]
The Californian *Staats Zeitsing* remarks that the success of Californian viticulture exercises its influence on the importation of wine in the United States. Ten years ago only from 500,000 to 600,000 gallons of Claret were produced in California, but last year 4,000,000; 6,000 cases of champagne ten years ago and 18,000 last year. The whole production of wine in 1883 had risen in California to nearly 10,000,000 of gallons, representing a money value of nearly \$5,000,000. More than half of this wine is sold in the Eastern and Southern States of the Union and its quality improves continually in such a degree, that it deserves, considering its purity and cheapness, the preference before any foreign growth. With regard to its cheapness we may state that the production of a gallon of Californian wine costs 20 cents. Such wines when two years old are sold at 75 cents per gallon. As soon as the production of Californian wine was large enough to make itself felt in the market, the consumption of imported wines began to fall. The importation from France alone has decreased within ten years from 6,000,000 to 2,000,000 of dollars and that from other countries from 9¼ millions to 6¼ millions. The Californian wine growers can well be satisfied with the success which they have achieved in such proportionately short a period.

EXAMINATION OF WINES.

Mr. F. Pohndorff kindly gives us the following particulars of his examinations of wine samples, in conjunction with Professor Hilgard, at the University. Clairette Blanche wine showed a rapid and most excellent development, and that quality of wine will be one of the most acceptable ones for California, just as the grand productiveness, and its reputation of being contented with any soil, will be for the vineyard a most desirable acquisition. Of the 15 or more kinds of wines we sampled, the Clairette Blanche appears to be the most thorough success with the fullest confirmation of getting from its vine a most delicious quality of white wine. It finds a true home in California. The same is, without any doubt, the case with the two Cabernets. The Cabernet Franc we examined is going on beautifully in its course of development. It is true to the grape in its expression, the more it builds itself up. When we inhaled the flavor and tasted the gentle, mild wine of the Cabernet Sauvignon, we felt that the unfolding of its qualities becomes each time more apparent. We shall not be disappointed in obtaining, in California, from that queen of vines, Clarets which will eventually be classed as high.

Exportation of Portuguese Wines.

The exportation of wines from Oporto, Portugal, in 1884, was as follows:

To—	Gallons.
England.....	4,834,886
Brazil.....	3,238,494
Germany.....	475,701
France.....	236,287
Russia.....	127,036
Denmark.....	120,278
Sweden and Norway.....	82,553
United States.....	52,509
Belgium.....	42,979
Argentine Republic.....	42,266
Holland.....	16,584
Portugal's African possessions.....	2,006
Spain.....	633
Other parts.....	343
Total.....	8,972,555

CALIFORNIA VINEYARDS:

KRUG CHARLES,
Krug Station, St. Helena, Napa Co., Cal.
Producer of fine Wines and Brandies.

J. C. WEINBERGER, Manufacturer of Wines, near
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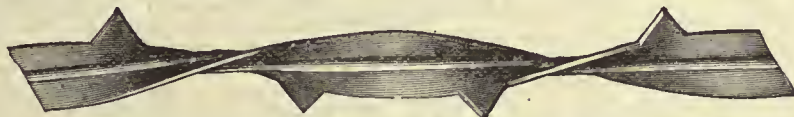
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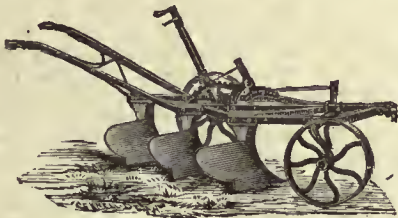
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FERMENTATION OF WINES.

Interesting Remarks by W. H. McIntyre of Rutherford.

From the Report of the Third Annual Viticultural Convention.]

Captain W. H. McIntyre of Rutherford.—Mr. President, ladies and gentlemen, it seems a little strange to be called upon to give an experience or presume to teach any matters of which one knows so little as I know in regard to the fermentation of wine. I am but a beginner and would rather sit as learner than attempt to give any experience, or least of all to attempt to teach in the matter of making wine. I can, however, perhaps give you some matters of experience that may be a benefit. I know that for my own part I am most happy to get the experience of others and from everyone that I can learn something. Following the line of thought which we have had presented for us this afternoon in the matter of fermentation I will say that I use only the system of an open tank for red wine without using a false head. I tried a false head and found it undesirable as the temperature varied materially; the temperature would always be higher at the top and center of the tank than at the bottom and sides. I found that the fermentation would be going on rapidly in one portion of the tank and not in another, and I had no way of remedying that without taking off the false head and stirring it up and then replacing the head, which was attended with a good deal of trouble and inconvenience, so I got rid of the head. I usually stir the pomace once a day before the fermentation sets in, and then twice or three times a day during the time the fermentation goes on, after which I keep close watch of it with the thermometer. I like to have them crushed at 65 degrees Fahrenheit and prefer not to have them higher. If the grapes are at a temperature of 65 degrees, and it rises normally, I only stir them twice a day, but if they are crushed at 68 degrees or 70 degrees the temperature will then rise so rapidly in warm weather that I find it necessary frequently to stir constantly during the period of violent fermentation, and in that way I can keep the fermentation down, so that it cannot come to the point where the wine seems to be burnt or rendered tawny afterwards by taking on too great a temperature. Mr. Wetmore spoke of times when he needed something to stir up or stimulate the fermentation, and his plan of putting in yeast. It seems to me that is hardly necessary under normal conditions from the fact that the germs are already there in the normal state and will develop by means of heat to bring it on and carry it out with sufficient activity for all purposes. In case the grapes have been brought into the cellar at a temperature of 60 to 63 degrees, and when they commence below 60, I have resorted to warming it, and allowing it to remain in the tank for any length of time, but immediately on the tank being filled I warm it by simply pumping the must out into a tub in the bottom of which there was a copper coil with a steam connection, or, not having this, I would use a flat bottomed copper kettle, with the pipe so conducted to it that there should be a vacant place beneath the must, or a double bottom, so that the heat is carried there, and warms and stimulates the must above. In our cellar the tank is so placed that after being warmed to a temperature not exceeding 90 I allow it to run back into the pomace, and in a tank of 1,000 gallons, containing four or four and a half tons of grapes, the must taken out immediately after it is filled and warmed to a temperature of about 68 at which point the fermentation, which usually sets in within 12 hours, goes on normally. The greatest difficulty we have found in all cases has been from extremely high temperatures, where the grapes are brought into the cellar and crushed at a temperature of 70 to 75 the fermentation sets in so rapidly that it may seem almost in fermentation from the crusher, and the fermentation goes on so fast that it seems impossible to check it, and here is where I think we have one great trouble with our wines, and one great cause of poor quality and bad fermentation has been from this over heating. If we can contrive in some way to stop this, to so crush our grapes as to

avoid the rapid fermentation, we will have better wine and better fermentation. In order to do this it seems necessary to crush grapes when they are cool, and if they are picked on a hot day they should stand over till the next morning. I was interested in observing that Mr. Portal practiced crushing the grapes the same day on which they were picked. It seems to me that may be done in such a year as this, and with great advantage; in fact that has been my practice this year. But in the three years preceding this it has been my practice to allow the grapes to stand over night in almost all cases, and if I were drawing plans to construct a cellar I would provide first of all a receiving room in which the grapes should be received, provided with separate rolling blinds or slats so that the sun could be excluded and the air admitted, where the grapes could be brought to the temperature of 65 degrees, that being the best so far as my observation has extended. In regard to the matter of allowing the wine to remain on the pomace after fermentation that seems to me one of the most important points and one of the most difficult to decide. In some cases I have found it to give very good results to draw it from the pomace immediately after the fermentation has ceased. By the ceasing of fermentation I do not mean that it has entirely ceased because a certain amount of insensible fermentation is still going on, but when the saccharometer will show that the wine is dry and get one degree below zero, that is to say at a temperature of 80, it shows that it is dry and we have one degree to spare, I regard it as practically through, and it is safe then from any future fermentation. It is safe on the secondary fermentation under ordinary circumstances and I have found the best results so far as bright, clear wine was concerned from drawing it at that time. But in case I have lack of tannin I have found it necessary to let it remain on the husks for a longer time, but in such cases it seems to take on a flavor which is altogether undesirable, and so far as I can observe I would prefer drawing the wine as soon as possible. For instance, the fermentation has gone on normally and the wine has become dry at a temperature of about 85 to 87 degrees, I would allow it to stand from two to four days, not exceeding four days, and in that time I should expect the temperature to have fallen in case the fermentation was fairly perfect, to about 76 or perhaps 74 degrees, and then I should regard it as entirely fit to be drawn from the husks, and so far as I can observe, from the little experience I have had, that is the point that is most suitable. As regards the general conduct of a cellar it is hard to say what practice is best. I would say first of all that the utmost cleanliness should be observed. We could not say that any person engaged in making butter could produce good butter if anything was neglected in the matter of cleanliness, and so in making wine. The first lesson I received in the matter of making wine was from a gentleman in this State who has been very successful, and he said, "First of all keep everything sweet and clean under any and all circumstances. Neglect nothing that will tend to that, spare no expense nor trouble to have this in all cases faithfully carried out and attended to." This I have endeavored to do, and I believe it to be one of the prime essentials to success that this should be done, in all cases the cellar shall be looked after most scrupulously, and in that we spare no expense. When the men come into our cellars we have only to say to one man "you take particular care of your part of the cellar and see that it is clean and in order and to another man you take care of your part of the cellar and see that it is neat and in order, and so on throughout." And after a while they like to see everything clean and neat. Everything that is carried on systematically may be carried on well.

I will say to every one who is beginning, keep a thorough record of everything you do. Don't trust to your memory; memory is treacherous, and we are likely to confuse matters. Commence by keeping a record of the weight of the must, the amount of saccharine matter, its temperature. Take it down when it is brought in, the amount of saccharine matter, the temperature at which it is brought, then every day once or twice weigh it and note the result carefully, and in after years you will find your record valuable, and by this method you will be

enabled to give some information that will be of inestimable value to those who are learning afterwards. The careful inspection of a record of fermentations is invaluable to any wine maker, and especially I have found it so to myself in the beginning. If I had had access to some record of fermentations, as I have made, it has seemed to me that it would have been beyond all price in regulating my own movements as regards fermentation in the outset. It is not difficult to make wine, it only requires care and strict attention. We cannot undertake it and go away. It needs attention day and night. It does not do to trust it to others. Some one must be carefully in charge of the cellar at all times, either the proprietor or his foreman. It is impossible to trust it to everyone, and one individual only should have charge of all these matters.

Query.—How about varieties of grapes?

Mr. McIntyre.—I am a resident of Rutherford in Napa valley, about 14 miles above Napa city, and four miles from St. Helena. With us Zinfandel does well on the hills but in the valleys I do not esteem it so highly. The Carignan is a variety recently adopted but which seems to be good. I have wine from three vintages and it is keeping well and has a very good color, quite dark, and seems to be quite desirable. The Grenache does well with us. We have it planted in the valley in soil very similar to that at Mr. Crabb's place. It is a gravelly loam and in the particular place where the Grenache is planted there it is quite gravelly, rather coarse. The color is very good, it is rather late in handling but a very kindly grape to handle, not quick or violent in fermentation, but very steady, and goes on to perfection very readily and without any particular nursing. The Mataro in the valley seems to be too high in acid. It is very good in color, but I must say that I am not pleased with it in handling. I do not know why, but I have not succeeded to my own satisfaction, although it seems to blend well. I have this year a blend in fermentation of Mataro with Zinfandel which was made for studies, and not because I expected to produce anything particularly fine. I have also Mataro with Carignan which has proved very good. I have Grenache and Carignan and various modifications of this with Zinfandel in various parts; among them all I find the best blend is a blend consisting of about 60 per cent of Zinfandel from the hill, about 15 per cent of Grenache, about 4 per cent of Malbeck, and the balance made up from Carignan. This seems to be possessed, so far as I can observe, of the best color, and is certainly very sprightly and pleasant now. In white grapes we have the Riesling as our standard, and that seems to be the best. We also have the Sauvignon Vert, which is of great promise. We have very little Semillon, not enough to show what it will do. I should have mentioned the Chauche Noir and Chauche Gris, both giving promise of very good wine, although the Chauche Noir does not give great color. It is rather light, but its flavor is excellent and I think it is very desirable indeed. The Tannat is very good. We have only a little and our vines are young. I cannot judge what the results will be.

The President.—Will you state what you consider the strict difference between mountain Zinfandel and valley Zinfandel?

Mr. McIntyre.—I should say that the mountain Zinfandel has a better body, a better color, less acid, and better tannin than the valley Zinfandel.

The President.—Is the mountain Zinfandel the sweeter?

Mr. McIntyre.—Yes sir, we have a better proportion of saccharine matter.

The President.—Which has the most flavor?

Mr. McIntyre.—The mountain Zinfandel, it is more penetrating.

Mr. Portal.—What kind of difficulty do you find in fermenting Mataro?

Mr. McIntyre.—I find it impossible to prevent a certain unpleasant odor from it. Whether it arises from the soil I do not know.

Mr. Portal.—That is quality?

Mr. McIntyre.—It seems to be that, but it appears to be particularly unpleasant so far as I have observed it from my own vineyard. I do not like it and have not been able to get rid of it.

Mr. Portal.—In the first year it should be disagreeable but in the second year it

should become more pleasant and a better blend—that is more apt to blend with any other wine. The first year it should be a good quality and good promise but the second year it should be better.

Mr. McIntyre.—It is improving but not so fast as I had hoped.

Mr. Portal.—Does it ferment well?

Mr. McIntyre.—Yes sir.

Mr. Portal.—Could you extract all the sugar from it?

Mr. McIntyre.—This year the saccharine matter was rather light and we only succeeded in getting 22 per cent, while in the Chauche Noir on the adjoining ground we had 24 and 26.

Mr. Portal.—How is the tannin?

Mr. McIntyre.—The tannin is very good and it seems to me it would make a very desirable wine indeed, but so far as my present experience is concerned I am not pleased with my own experience. [Applause.]

AT A SUBSEQUENT SESSION.

Captain McIntyre.—Mr. Chairman, ladies and gentlemen of the Convention, I did not expect to be called upon at this time to add anything to the remarks which I made last night with respect to fermentation. I had however expressed the wish to pursue the subject a little further as I did not make myself understood by some as to the methods to be pursued. One point at issue seemed to be left in doubt as to whether under all circumstances I used an open tank. In the little experience I may have had in observing the process of fermentation I say that I would not under all circumstances use an open tub. I can readily perceive that a false head would be of some service in case a man had a large amount of wine and had a number of men to direct if there was a hole cut through it to enable the escape of gas. In a cellar of 100,000 gallons I would prefer an open tank and stir the mark in case the temperature became too high, and acetic fermentation would be avoided in case the air came in contact with the top of the must. At the same time caution should be observed in filling the tanks and they should not be filled too full, so full that the cap would come above the top of the tank. It ought not to be allowed. We all know that carbonic acid gas is five-tenths heavier than air and it will naturally fall to the surface of the wine and there exclude the air just as effectually as the cover of oil upon water would exclude air from the surface of the water. There can therefore be no danger of an acetic fermentation taking place under such circumstances. In practice also I have invariably used the test of a lighted taper on the top of a tank to decide when I should stop stirring it. In case there is carbonic acid gas on the top a taper will not burn, a match will be extinguished, but when I find that there is no carbonic acid gas, by applying a taper and it is not put out, then the wine should be drawn off or protected. The little amount of air that is carried down during the process of stirring the must for the purpose of equalizing the fermentation or reducing the heat, amounts to nothing, for the simple reason that it cannot stay at the bottom, but being lighter than the carbonic acid gas it must rise. There is therefore no danger to the wine from that direction. Where a large quantity of wine is on hand and there is an inability to properly stir the pomace in the tanks I should say we might resort to employing perforated heads. In that case, for the purpose of reducing the fermentation, a resort might be had to a steel bar introduced between the slats or into the opening in the perforated head, thereby breaking the cap underneath and allowing the gas to escape. In that way the danger of protecting by a false head is greatly diminished because, allowing the escape of the gas, reduces the temperature or prevents its rapid increase to the obstruction of a proper fermentation.

There is one other point that I wish to speak of, it was in relation to the proposition of all people of making their own wine, the idea of a wine cellar, its proper construction, the necessity of an even, equable temperature at all times for proper fermentation. It seems to me a very simple thing to make wine and a very simple thing to make a wine cellar. We should have an even temperature if possible to get it, and we should get it. It takes very little to make a double wall, not a shed

that a cow can jump through, a double wall so that there will be a dead air space inside of it and the work is done, we have then a comparatively even temperature. It is not a \$10,000 operation to make a wine cellar of that character for a few thousand gallons of wine, it may be made for \$2500 or \$2550, according to location and cost of lumber. I should say that the cover of the cellar should also be carried up double, the boards or shingles being put on, and then on the inside of the rafters seal it so that there will be a space between the two, and open vents between each pair of rafters with an opening into the air, so that the warm air can escape, reducing the temperature of the cellar. As to the way a cellar should be built, of stone, wood or concrete it matters not—according to your own ideas, wants or purse. As regards my own experience for fermentation in an equitable temperature I would say this year I have a cellar in a new building where the temperature was 63 degrees and I found no difference in the fermentation of the wine; on the contrary, the most pleasing fermentation I have ever made. In this stone cellar, with an average temperature of 63 degrees, it varied but one degree during the whole vintage, the fermentation was perfect and even from the start. There was no yeast used in any case, simply the must placed in at 65 or 68 degrees and the fermentation went on steadily until completely closed.

I was requested to make some remarks about the carrying on of fermentation when it was once checked. Very many ways are practiced in regard to this. So far as I am concerned in my own practice, I have found the best method, during the vintage when I found a tank of wine was stopping, by watching it closely and seeing by the thermometer the determination of the temperature—if the temperature goes up to 90 degrees and then suddenly falls I apprehend trouble, and watch it carefully every 4 hours during such interval. I note whether the fermentation is stopped. If I find it is, immediate measures should be taken to incite or start fermentation. To do this I would divide the must, yet unfermented, or the wine as it is in the tank, still retaining 2, 3 or 4 per cent of sugar in it, into three or four tanks, and then crush upon it sufficient grapes to fill the tank in an ordinary way. Supposing a tank of 600 gallons should stop fermentation I would then take two tanks and place 300 gallons of the must or wine into each tank and crush fresh grapes down upon it. There I had the necessary nutriment for the germs to feed upon and fermentation goes on until it is complete. There seems to be no trouble in this direction. Another way is to add yeast. If the temperature is falling too rapidly, if it was up to 90 degrees last evening and this morning I find the temperature at 85 and still 12 degrees of sugar I should apprehend trouble and try to make measures to start it along. In case the temperature was not too much during the night I should try to start with fresh top yeast without warmth, and, if it had been high and I could not pursue that plan, I would take bottom yeast from the white wine. The best way is to watch the wine when it stops so that you can carry it on without difficulty.

The Los Gatos Mail reports the organization of a local Viticultural Association with the following officers: President, George W. Lynch; Vice-Presidents, Joseph Lancaster and George T. Bigelow; Secretary, H. C. Houghton; Treasurer, A. Malpas. The Society will meet in future on the first and third Saturdays of each month

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THE WINE QUESTION.

A Paper Read by Hon. M. M. Estee at the Third Annual Viticultural Convention.

Mr. Chairman, ladies and gentlemen, I am not much accustomed to speak upon any question where I have to read what I am going to say but the real fact is I did not have time to think it over enough to speak without notes so I put down what little I am going to say on this subject. You will perhaps pardon me if I read, because I see the rule seems to be for the reading of what are called papers. This is not a long paper so I will not detain you long.

In the United States wine is a luxury and as a rule is not drunk by the masses of the people. In most European countries it is a necessity, it is a part of the food of the masses. The people there drink wine more than tea or coffee. In America, as our people become wealthy, independent or luxurious they drink wine. Hence, it is, Americans always want the best wine, whether they get it or not. They will endure bad bread and generally bad cooking, and even drink bad milk or coffee, but not bad wine if they know it. Most people in the United States commence drinking the popular French wines, and thereafter the label on the bottle is as important to them as the wine in the bottle. Many of our wine merchants knowing this, have put all sorts of labels on bottles of California wine in order to sell the wine, and it is amazing how successfully it works. There are three leading obstacles to our trade. One is, too much inferior California wine is put upon the market and too little good wine. Second, many of our best wines are sold under French and German labels, Third, our transportation is generally too high. When we shall have succeeded in making large quantities of not only good wine, but the best wines, we shall have the world for a market. We are now making some first rate wine. We will soon make a great deal more of it, and we must make more of it in order to establish our reputation. Good wines will always sell for a good price and a fair amount of first class wines made in California and put upon the market will sell our second class wines, for no amount of deception or adulteration can affect the market for the best wines. It is the *vin ordinaire*, the common wines of the world which adulteration and false labeling most injures. We must show that we can make some first class wines, although a fine article of second class wines can always be sold and for a fair price. The real fact is, we must become more stable in our knowledge of good grapes and of good wines. If we change with the seasons, or adopt every new grape we hear of, there will be no permanency to our reputation. To know what is the best grape for wine is the secret. We run too much in fashion in grape culture, and I respectfully submit that we should not be ashamed to learn from the experience of European countries, the best grapes there as a rule are the best here, and make the best wines. A thousand years of grape culture there, has certainly given them a knowledge of grapes and of wine that we cannot surpass in a single decade. True, we understand the economic art of cultivation better than they do, but the kind of grapes to plant to produce the best wines, the kind of soils adapted to these grapes, the peculiar blends which are the best and above all the manner of making, handling and marketing wines, are secrets peculiarly within their knowledge and from whom we should not be ashamed to learn. It is true, we should not copy from every European who may come here, and who may claim to understand these subjects, for many have but a local knowledge and a limited experience. But we must be students in this new field of industry, and as such we must copy the old masters. Read the best books and imitate the best experiences within our reach, and while the kind of grapes to plant is not intended to be discussed by me, because not within the scope of this paper, yet I may be permitted to say a word on this subject, because the character of the wine is indicated by the grape they are made from. For years it has been fashionable to plant Zinfandel, and that comparatively good grape has been planted in rich alluvial soils, in poor clay lands, on warm rocky slopes, and

on the plains, and yet people wonder why all the Zinfandel grapes do not make a good wine. We must break some of our idols, and this is the first to be broken. The Zinfandel is not the best grape we have. When grown on hills it makes a very good wine, but when grown on rich moist lands it does not and never will make even a fair wine. No first class wine can be made from that grape. A good wine can be. The Zinfandel is unknown in Europe, or if known at all, it is but little, and not favorably known. It is not the best Claret grape to plant. The wine made from the Zinfandel grape will always sell, and fairly well, when the grapes are grown on hill or rolling lands, but in my judgment, the wine is more popular to-day than it will be five or ten years from to-day. I do not intend to plaut any more Zinfandel grapes. While it is a fair grape we know there are better grapes. I repeat what has often been said before. The trouble with us is we strive more for quantity than quality. We can not make as much first rate wine as we can common wines. We want immediate returns and must have it, and so make wine that is marketable right away. But we are improving every year. Next year will show a still greater advance in the right direction. Much of our California wine is better than the imported wines which come here and vastly cheaper. We must drive every gallon of imported wines from America. We can do this by making the best wines, and by overcoming the people's prejudice against what is their own. The best European varieties of grapes must be planted. We had better copy after other people than fail by making a bad original. Do not despise the shy bearers.

The grapes of a world wide reputation, and which make a wine that will sell for a good price in any foreign or American market are small bearers. The earth will not give up in large quantities the color, the tannin, and those rich essences which no analysis can find, but which the taste will instantly detect. When a man tells me he raises eight to ten tons of grapes to the acre, I cannot but think here is another blow against the character of our California wine. I know it is impossible, as a rule, to make good wine from such grapes. Even the rich treasures of our California lands cannot long supply such a demand upon them. Ten tons of grapes would mean not less than two tons of sugar besides the tannin, the coloring matter, and the substances so necessary to form good wine and added to that a growth of wood equivalent to the greatest growth of the heaviest timber land in the State. Under such a strain the land would soon wear out, the vines become debilitated and die. But outside of this let me say, as a matter of economy, it is better to make 10,000 gallons of wine from the Cabernet Sauvignon, the Cabernet Franc, the Malbec, the Mataro, or Carignan, than 25,000 gallons from the Mission, the Malvoisie, or even the Zinfandel. In the one instance the wine when new would be worth from 40 to 75 cents a gallon, in the other from 18 to 30 cents a gallon. Remember there are no glutted markets for good wine, no years of over-production, the demand exceeds the supply, and always will, because the large majority of wine made is a very common wine. With common or poor wines, when we have a large production, price is low and the demand is limited. When there is a demand there is a short crop and we have little to sell. So I respectfully submit that the market for our wines depends on the producer himself more than on the merchant. That while the question of transportation will always have a very great effect upon the wine trade of this coast, and in that view the early completion of the Panama canal cannot fail to be of incalculable value to California producers of wine as well as of grain. Yet primarily we hold the secret of success in our own hands. California Club wheat is the best wheat sent to European markets, California fruits are the best fruits raised, very soon California raisins will be equal, if not superior, to any made, California wines are growing in public favor, but this growth is slow. We have to grow in intelligence as well. While we have done much, yet the most remains to be done. We should not claim for our wine what it is not, but we must battle for what we know is really good. In the wine industry our poverty compels us to live in the present instead of looking to the future. A few years since

a vineyard had no value in the estimation of money lenders, now they have a great value. We have thus far forced this industry upon public attention. In the future let us make wines, the superior excellence of which will sell themselves. In this view let me say, we must give our wines local and individual names, so the man who makes a good wine will not be handicapped by all the bad wines known as California wines which are cast upon the market. Let each producer have a trade-mark, and also have a pride in the business, which means money in the business. Why should we not take as much and even more pride in the character of the wines we make than in the kind of a horse we raise. The reputation of a horse dies with it. The reputations of our vineyards and wines will live after we are dead, if they are the best wines and best vineyards. In France the best clarets are very light wines ranging in sugar from 18 to 20 rarely reaching 22. This wine is easily fermented and can be kept long and improves with age. The very heavy wines are those which more frequently spoil by fermentation or transportation. In California those cellar men who want 22 and more of sugar in all grapes bought them regardless of the kind of grape or the soil or climate where they are raised cannot make a good drinkable wine. Another very grave error we have been led into is that we have planted in our vineyards every imaginable grape we could find, from a Muscat up to the Cabernet Sauvignon. Hence most vineyardists who have a cellar make every sort of wine, Port, Sherry, Burgundy, Clarets, the white wines and Brandy. This is all wrong. One locality will not produce the best grape for all these wines, and no one man can master the art of making the best of them. This also injures our market for wines, because unless a vineyard or locality becomes known to produce some one good wine, it will have no reputation for any. Take my own vineyard, I feel sure the climate and soil is well adapted to Claret or indeed to any light wines. This I only learned after I had planted many vines which were not adapted to the locality and were not claret grapes, but now I am reducing the number of my varieties by replanting with those of the better sorts. Again if we want a market for our wines we must make the wines that the world is accustomed to drink. We are not yet of sufficient importance to mankind to revolutionize the taste. The Bordeaux flavor to Clarets is known to every man who drinks Claret and he likes that flavor. We cannot convince him that the peculiar characteristics of the Zinfandel is superior to that and we never will. Why not admit he is right and plant the grapes that give that flavor? When a man raises anything else for the market he raises what the market demands, not what he might like best, but in this instance the market is right and we are certainly wrong. Of course I do not mean we should dig up our Zinfandel vines, for the wines from that grape when grown in good situations will always sell fairly well and will pay us, but when we plant let us plant none but grapes which have a good reputation somewhere, plant nothing but the well known French grapes for Clarets. For white wines we have the best varieties of grapes already here. In conclusion then let me say the market for our wines in the near future will be the world, but the world demands good wines which can only be made from the best grapes, and this rests with ourselves for our soil and climate are capable of producing the best.

Mr. Estee on closing his remarks was greeted with applause.

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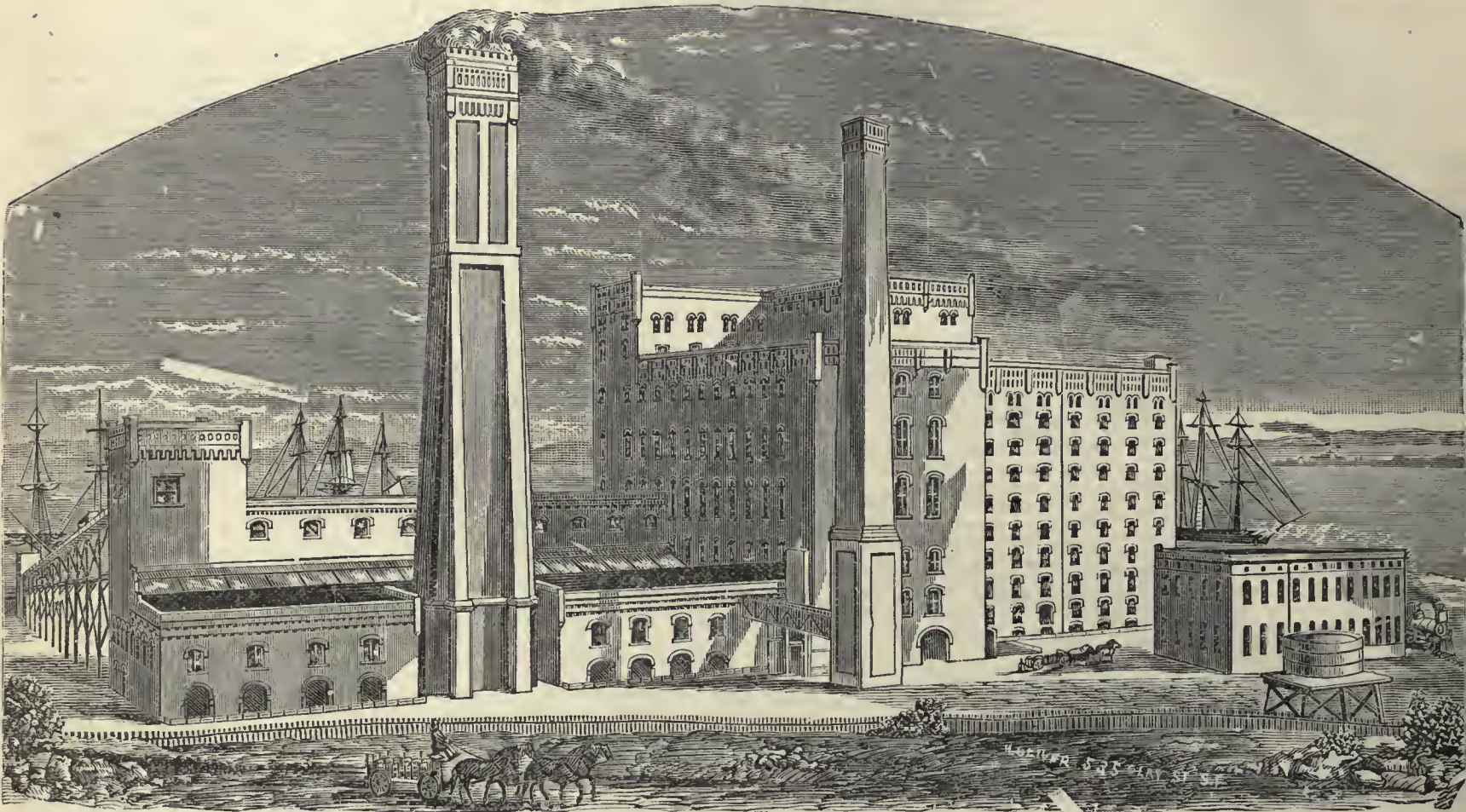
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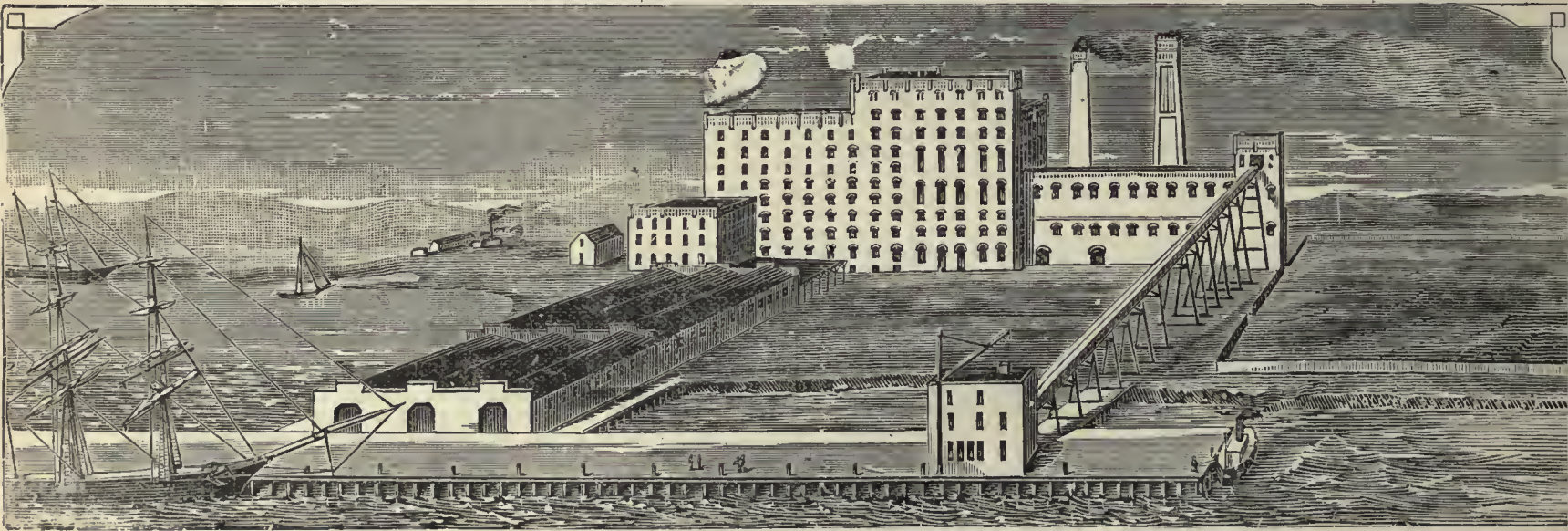
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Everyone visiting San Jose or its vicinity should not fail to drive out to the well-known nursery of John Rock, a distance of only four miles from the Garden City through pleasant avenues. One hundred and ninety acres are laid out in nursery, while in all there are 210 acres under cultivation. Mr. Rock himself is a most affable man, noted for his straightforwardness and reliability in business transactions, and he makes a visit to his place as pleasant and enjoyable as possible. This nursery makes a specialty of magnolias and camelias, plants from two inches to several feet high being ready to transplant by the hundred; azalias, clematis of 30 different varieties, date palms, Japanese fan palms in bloom, white wistaria, tree peonies, single and double, which bloom here from the middle of February to the middle of May—in fact everything in the flower kingdom known to us, and many things hitherto unknown, thrive and bloom with the greatest profusion and supply an opportunity for beautifying gardens and hot houses. The vast beds of roses, trees and shrubs are too numerous to mention in a brief notice. Among the novelties at Rock's Nursery are to be found the camphor plant and the bamboo, also the tree from which cork is obtained; this tree attains a height of 100 feet and is indigenous to Spain and Southern Europe, it does equally well here, however, and, a tree being accidentally cut down recently, the cork was found to be of good quality.

ROCK'S REWARDS.

To prove the variety and excellence of the product of Mr. Rock's nursery, we give, from the San Jose Times-Mercury, a summary of the rewards that he received at the World's Fair at New Orleans. Thus: For Apple Trees, \$25; Almonds, \$10; Apricots, \$10; Cherries, \$40; Chestnuts, \$30; Figs, \$45; Mulberries, \$20; Olives, \$20; Japanese Persimmons, \$25; Plums, \$20; Walnuts, \$20; Evergreen Trees and Shrubs, silver medal and \$100; Abies, silver medal and \$25; Cedrus, silver medal and \$25; Cupressus, silver medal and \$35; Pinus, silver medal and \$25; Taxus, silver medal and \$35; Broad Leaved Evergreens, silver medal and \$100; Berberis, \$10; Buxus, \$10; Eunonymus, \$20; Laurus, \$20; Nerium, \$20; Flowering Shrubs, silver medal and \$50. These aggregate the very respectable total of 8 silver medals and \$740.

REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and San Francisco, and W. H. Barham of Cloverdale, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country.

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

A compact property at Kingsburg, Fresno county is offered for sale. It consists of 60 acres in young raisin vines, 25 acres in trees and 40 acres in alfalfa. On the ranch are two houses besides every necessity for carrying on a well-established farm, and the water right is ample. The lot will be

subdivided to suit purchasers. The address is given in another column.

We draw special attention to the announcement of Mr. Wm. Mulligan, who has a young vineyard for disposal. It consists of 171½ acres in Alexander valley, Sonoma county, of which 155 acres are in vines of the following choice varieties, in their third year: Riesling, Chasselas, Black Burgundy, Charbono and Zinfandel. The land is conveniently situated and suitable for subdivision, being bounded on three sides by public roads.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

We also draw especial attention to the following, full particulars of which appear in another column: Twenty acres of land on East street, Woodland, Yolo county, which forms a beautiful location for a suburban residence. On account of the bearing vines, fruit trees and Italian olives planted on the property this will prove a self-supporting country residence. It is only ten minutes walk from the center of the prosperous and well-kept city of Woodland and is well worthy of the attention of capitalists.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the Bermal Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

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TWENTY ACRES OF LAND ON EAST ST.,

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5 ACRES OF IT IN CLOVER, and

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One hundred and fifty-five acres are in vines of choicest varieties, this being the third year, and are divided as follows:

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Other improvements, only nominal, consisting of very large barn for horses, wagons, implements, feed and hay. A small cottage for foreman and family, and house for hired men. This vineyard, so far, has proved to be entirely exempt from spring frosts and needs to be seen and examined to be appreciated. Price, \$60,000. One-half cash, balance on easy terms.

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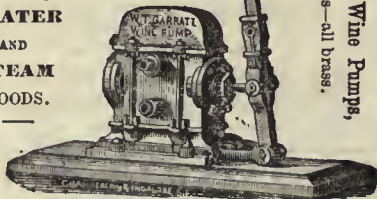
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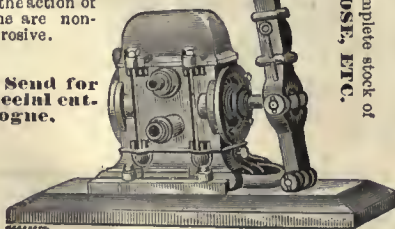
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VOL. XIV, NO. 3.

SAN FRANCISCO, MAY 22, 1885.

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VITICULTURE.

Important Meetings of the State Commission.

A meeting of the State Viticultural Commission was held at their office, 204 Montgomery street, on Monday 11th inst. There were present Commissioners Haraszthy, Wetmore, Krug, De Turk and West. The Executive Committee made a verbal report upon recent enactments, which prescribe new duties for the Board, provide for the creation of the office of a State Analyst at the University, to analyze samples of wines, and liquors submitted to him by the Secretary of the State Board, and the provision made in the general appropriation bill for an appropriation of \$10,000, to be expended under joint control of the State Viticultural Commission and the Regents of the University, for viticultural, experimental, analytical, scientific work. The report called the especial attention of the Board to the immediate necessity of taking action upon the question of joint control of the appropriation, and stated that arrangements had been made with the committee appointed by the Board of Regents for holding the first meeting at Berkeley, and recommended a meeting with the committee of the Board of Regents, the committee to be instructed to act, if possible, with the Regents in such a manner as to provide for the utilization of the appropriation so as to accomplish the greatest possible public benefit, through the joint advice and counsel of the active agencies of the two institutions, each having an equal share in the direction of the work to be performed.

The Committee did not desire to forestall the judgment of those who will be entrusted with the matter hereafter; but in order to obtain the sense of the commission, they submitted a plan for exercising joint control which might be suggested to the conference committees. This plan was outlined briefly in a rough draft for the foundation of an institute which they believed would prove to be a beginning of an important institution for future development. The draft suggested the establishment of a practical and experimental viticultural and oenological institute, to be governed by a board of five directors, of which the President and the chief executive officer of the State Viticultural Commission and the professors of Agriculture and Chemistry of the State University should be ex-officio members; the fifth member, who shall not be connected with either institution, but who shall be practically connected with the industry to be benefited, to be elected biennially by the four ex-officio members, or, in the event of failure to elect within 30 days after the regular time of election, to be appointed by the Governor at the request of any one of the ex-officio members.

The institute to be located in the city of San Francisco, with such experimental stations throughout the State as the Board of Directors may establish.

The directors to expend, in accordance with law, any appropriation made by the State, or other sums received, for the joint control of the State Viticultural Commission and the Board of Regents of the State University.

Unless otherwise provided for by law, the scope of the work to be directed by said institute shall be determined, as occasion may require, by joint ballot of the two controlling bodies.

The Secretaries of the Board of Regents of the State University and the State Viticultural Commissioners to serve as Secretaries of the institute.

The directors to have power to appoint such officers and agents as they may require and fix their compensation, and to make all rules necessary for their government not inconsistent with the law and the general scope of the work laid out by the joint action of the two boards by which they are controlled.

The Treasurer of the State University to be treasurer of the institute, and the Board of State Viticultural Commissioners to appoint one of its members to audit all accounts before they shall be transmitted to the State Board of Examiners.

The directors of the institute to receive no compensation for their services rendered as such officers.

The plan provided for reasonable traveling expenses. Provision is also made for filling vacancies in the Board by the Commissioners or the Regents. Elections of officers are arranged for annually. The institute shall continue as long as may be permitted by law, and as long as the two boards of joint control mutually consent to the same.

After full discussion of the plan presented by the Executive Committee, on motion of Mr. Krug, their recommendations were approved unanimously, and the president was instructed to appoint a special committee to confer with the committee of the Regents, with full power to act on behalf of the commission in all matters relating to the control of the joint appropriation. The president appointed on this committee commissioners Wetmore, De Turk and Krug.

On motion of Mr. West, Messrs. Krug, De Turk and West were appointed as a new standing committee to determine the matter of compensation of the chief executive officer in view of his increased duties, and Messrs. Haraszthy, Rose and De Turk were appointed a committee to confer with the railroad companies with a view to obtaining a reduction of freight on cooerage from the East.

The committee on conference with the State University was also instructed to confer with the State Analyst, and to report at the next meeting of the Board concerning the necessary measures that must be adopted to fulfill the intention of the law. In accordance with the law, the Governor will soon appoint one of the professors of the State University as the State Analyst, who will have duties to perform in connection

with the State Board of Health, Mining Bureau and the Viticultural Commission.

Prof. Rising of the State University made a verbal explanation of work that was in progress in his laboratory for the commission. He stated that his report upon Warner's grape milk would soon be ready, also that in his examination of certain diseased wines that had been submitted by the commission, he had discovered the presence of mannite, and that he was now investigating the connection that might exist between such diseased fermentations in the vines and lactic acid.

CROP PROSPECTS.

Mr. Krug reported severe losses by frost in some parts of Napa County and also referred to similar losses in Sonoma County. He estimated that the losses this year in those two counties would reduce the normal vintage at least one-half.

Other reports from observations indicated that there would be this year a light crop in Sonoma and Napa counties on old Zinfandel vines. Reports from the southern counties indicated the prospects of a large vintage.

Mr. Haraszthy reported a large, promising yield of Orleans Rieslings on the foothills of Yolo County.

Mr. Wetmore reported considerable damage being done to grafts made this year in the Livermors valley, caused by beetles eating buds of the scions. A similar pest is reported doing like damage at Mountain View in Santa Clara County.

THE CONFERENCE COMMITTEE.

The meeting of the joint conference committee of the Board of Regents of the State University and the State Board of Viticultural Commissioners was held on the 12th inst. at Berkeley, to consider the matter of the joint control of the appropriation of \$10,000 made by the last Legislature for experimental work in viticulture. Present—J. West Martin and George J. Ainsworth on the part of the Board of Regents, and Chas. A. Wetmore, I. De Turk, and Charles Krug on the part of the Viticultural Commission, and the secretaries of the respective boards. The plan suggested by the Executive Committee of the Board of Viticulture was submitted to the meeting and debated at great length, the main point at issue being the site of the experimental fermentation cellar and other features pertaining to the practical and mechanical work to be accomplished.

Professor Hilgard expressed a decided preference for the location of the entire plant for the experimental work on the University grounds, claiming the advantage it would afford the students, and his views were supported by the members of the committee on the part of the Board of Regents.

The members on the part of the Viticultural Commission, while granting that all the works appertaining to the analytical and purely scientific part of the contemplated establishment should be at Berkeley, held that the fermentation cellar, wherein the practical work of comparing the various

systems of wine making would be carried on, ought to be located in San Francisco, as it was a more central point and therefore more accessible to all interested, and also that strangers coming from abroad would have a better opportunity of examining the various samples of wines than if the cellar was at Berkeley; and further, that a great saving in money could be effected as a building suitable for all purposes could be rented at a reasonable rate, while at Berkeley one would have to be erected at a great expense. They also opposed the idea of spending all the money in Berkeley, as the university already has an annual appropriation of \$3,000 for this work outside of the \$10,000 above referred to.

The debate ended without an agreement being reached, the suggestions of the commissioners being taken under advisement by the Regents, who will report at an early date.

IN SAN BERNARDINO.

Dr. J. D. B. Stillman, of Lugonia, near San Bernardino, is now visiting San Francisco with the intention of perfecting plans for the erection of a winery at his vineyard. He will probably aim to produce a high quality of sherry and port wines, being favorably situated for such work. Last year he was very much discouraged with the outlook for his Muscat grapes, the Muscatel being unsuccessful on light sandy soils in that climate. This want of success pertained rather to the failure of the first crop of fruit to set and not to the vigor of the fruit. The subject of the failure which was experienced, was thoroughly studied by the Viticultural Commission last spring and reported upon during the year with recommendations as to new methods of pruning which could be attempted, and which, it was believed, would prove successful. Having instructed his son to follow out the suggestions of the Commission, Dr. Stillman had the oversight to make comparative tests, pruning a portion of the vines according to the old method and a portion according to the methods suggested. He reports that he is more than pleased with the promise of success, that the foliage on the vines pruned as suggested shows a healthfulness far beyond expectation, and much superior to those pruned as formerly. He intends to pursue the experiment during the year and will report the results as the season progresses.

Dr. Stillman has been grafting during the last year some of the finest varieties imported from the sherry districts of Spain, and the Madeira districts of Portugal, which he believes will be very successful in his locality.

RESISTANT VINES.

An Interesting and Practical Discussion.

[From the Report of the Third Annual Viticultural Convention.]

Mr. Maslin of Sacramento.—Mr. President, ladies and gentlemen, I read once in the "Students' Manual" when I was quite a boy that after having investigated a subject and arrived at a conclusion it was just as well to sweep out the reasons for the conclusion and remember the conclusion for the remainder of your life, and I think it is a good rule to follow in reference to this question, as to the growth of resistant vines. I am with Mr. Wetmore. It seems to me that the question has passed discussion and yet there are several gentlemen in this State, whose writings I read, who are continually casting doubt upon the feasibility of planting the *Vitis Californica* as a resistant vine. I suppose those gentlemen have seen the vine growing, and then they will go home and write an article for the *S. F. Bulletin* or the *SAN FRANCISCO MERCHANT* and still cast a doubt. It seems to me that the time must come when the discussion must stop, and this Commission, and every viticulturist in the State should determine once for all that the *Californica* can be grown in the driest and least humid soil in the State of California. When I began to put out my small vineyard in Placer county I read the writings of a distinguished eulogist of this State, who declared that the *Vitis Californica* could not grow, except on the banks of rivers. It was impossible to grow it on the hillside. I wrote to Mr. Wetmore, and Mr. Wetmore gave me reasons for starting. Professor Hilgard made an analysis of the soil of my vineyard and said it had a very low retentiveness of humidity. If you went there before it was planted, looking at the dryness of the soil and the climate, you would say it was impossible to grow a grape vine on it. I subsoiled my land and bought some seedlings which were not probably larger than an eighth of an inch in diameter when I put them out. I put them out about the last of March, 1882. They have never had one drop of water except what fell from the heavens. They made a growth up to about a year ago, say, one half of or three quarters of an inch in diameter. This year I grafted them with Zinfandels; they had grown then to an inch or to two inches in diameter. The root system was, as Mr. Wetmore has shown you here, I had a *Vitis Californica* at the State Fair, and it is now at New Orleans with the graft on it; it was about two inches in diameter. The tendency of the *Vitis Californica* is to grow a root straight down. The vines are planted eight feet apart. This vine, which I dug, started within two or three inches of the surface, and to dig it out I had to dig at least three feet sideways under the ground before I could get four feet of that root. It went off at an angle of almost forty-five degrees so that you can plow very near to the vine without cutting any of the surface roots. The roots are very hard and very woody. I grafted them about March and about April 29th I finished grafting and I suppose that the experience of one like myself would prove the circumstance that the *Vitis Californica* can be grown under the most disadvantageous circumstances and in the driest of soil.

I made some mistakes which may be of interest to those who have never grafted the *Vitis Californica*. I planted the crown too near the surface. When I planted my vines they had just simply one long root—it must have been eight to ten inches long—and I planted the crown very near to the surface; the soil was very loose, and when Spring rains came the lateral rootlets started out close to the surface. When I cut off the roots I cut them off three inches deep and the result was I had to lose about half of my root system, because I had to cut a place below the surface soil on which to graft, and I had to lose these roots, so that I might say that my vineyard was not more than half a success; I don't know what would have been the result if I had the whole root system to send sap and invigorating power into the branches. I found that the root crown was very gnarled, and you cannot split the root of the *Vitis Californica* freely. You want to get a

sharp shoemaker's knife which costs about 15 cents, a very thin blade. Near the crown the young root is very soft and with the pressure of the hand it will make a straight cut and not a split. I think I lost, in planting the *Vitis Californica*, about 10 per cent of grafts that did not take. I never had any experience in grafting, but I took Mr. Wetmore's book and wherever I traveled I read it, slept with it under my pillow, and talked with everybody I met about the subject. I think I met with a good deal of success for a "greenhorn," to lose only about 10 per cent of the grafts. I suppose my loss was due to carelessness. One man cannot graft more than 130 to 150 vines a day; at least I do not think he could.

Mr. Wetmore.—I never had a man who could do that much and do it well.

Mr. Maslin.—My calculation was about 135, but I worked very early and very late, and I had the interest in this matter of an owner, which is different from a hired man. I think I also made another mistake in waiting two years. Wherever I found a large stock an inch and a half in diameter as a general thing the grafts failed. Where I found the stock a quarter or half an inch in diameter the graft took admirably. I think Mr. Wetmore says that you better wait for two years on account of the root system having time to establish itself so you will have an increase of vigor in the grafted stock. I suppose that is correct as Mr. Wetmore knows more about the subject than I do, but I simply state the fact that wherever the stock was large I found a large percentage of failures. I suppose that is all that is necessary to be told in regard to the growth of this resistant stock.

Mr. Wetmore.—There may be some circumstance in regard to the grafting of the large stock which should be explained in some other way because in your immediate neighborhood the Natoma Company grafted quite a large batch of three year old roots, that were very large and thick, I think they must have averaged two inches in diameter and they had a splendid success with them, and they are bearing now.

Mr. Maslin.—That is just my observation. I will say in reference to the *Vitis Californica* that I do not think that I have had a sucker growing on the vineyard yet. The trouble I did have, which may be avoided, when I put these grafts in, I used Raphia to tie with, which is some sort of East India fibre that lasts on the roots in about two months. I tried it for the prevention of roots, as much as possible, from the scion. To my astonishment in digging around them here on this scion was an immense amount of little rootlets, and as much of the scion as was buried in the ground, from this bud was making a lot of rootlets. I thought then, if the sap goes up those little roots to the scion, it must interfere with the flow of the sap from the root of the stock to the scion. I wrote to several viticulturists and some told me I had better cut the rootlets off, and others told me if I did I would lose my scion; so you can imagine the predicament I was in. So I thought I would take the bull by the horn, and went through the vineyard and took the rootlets off, and the vine came up and the scions fell over and next morning I found them there. I went back and put the scions in place and bound them anew and kept on cutting the rootlets off. I cut those rootlets off three times but of course taking care to tie the scion immediately up. I have never lost any from cutting the rootlets off. I think I cut too low; I must have cut four or five inches and perhaps even deeper than that; I would make a hole with a spade and then cut down below under it off. I think, if I had grafted it, say about two inches and then hilled the dirt up about it, it would have stopped the growth of the rootlets.

When I put out the *Vitis Californica* I also put out some Zinfandels, say perhaps about 1,000, running along the edge of the vineyard in much more favorable soil and much more favorable subsoil. I grafted Zinfandel on the resistant roots on April 29th. The branches which came from the one bud, and they made from three to four branches from one bud, made much greater growth than did the Zinfandels, which had not been grafted. My grafted vines would have borne grapes this year but I cut them off because I did not want them to bear so soon. My deduction is that even if the *Vitis Californica* were not a resistant vine,

it has an immense root system and must produce when grafted more fruit than the ungrafted vines of vinifera varieties.

Mr. Wetmore.—It was last year that you trimmed the roots?

Mr. Maslin.—Yes sir, in June.

Mr. Wetmore.—Have you examined this year to see whether they have made new rootlets?

Mr. Maslin.—It is this year I am talking about, I think I have cut all the rootlets off.

Mr. Wetmore.—What comparison did you have to show between the *Californica* and the *Riparia*?

Mr. Maslin.—Well, I put out *Riparias* this spring, and I took up some the other day, and I find *Riparia* has a tendency to shoot out surface roots, but no strong tap root.

A Delegate.—Have you ever grafted any nurseries to replace in your vineyard?

Mr. Maslin.—No sir, I never grafted in a nursery. That has bothered me a good deal, whether it is cheaper to graft in a nursery or to graft in the vineyard, but it is very tedious to graft in a nursery where you have to follow a line all the time, because in the field you can straighten yourself up.

Mr. Wetmore.—Did you take the seedling and graft it and put in the nursery?

Mr. Maslin.—No sir, I never did that, sir.

Mr. Wetmore.—I will explain as far as my experience goes, something about these points Mr. Maslin has raised. One of the things to guard against and essential to the grafting of resistant stocks, is to prevent the scion from taking root. That is not true when you are grafting an old vine, when you simply want to change the variety; in this case you simply want to preserve the resistant root. I want to call special attention to this because I find some do not appreciate the importance of it. Mr. Maslin did cut the roots off. It is questioned by some whether those roots are to be cut off that year or wait till the next winter. If you do not cut them off the sap rises, goes up to the root, goes up the plant to the leaf, and in returning by the cambium layer, making the new layers of tissue, it comes and meets an obstruction in the graft, which tends to force a root from the scion, which develops at the expense of the roots below. I asked Prof. Hermann if he did not cut off the roots and he said no, that did not make any difference, if the phylloxera came along they would eat them up and then they would have the resistant roots to work on. But you will not have any resistant roots if you allow the scion roots to grow, because the others will dwindle away and the vine will grow entirely on the scion roots.

Now in regard to enveloping the point of grafting with clay. I do not mean mud, but mere clay; there is no little root will form in that; I have seen that from my own experience of it; wherever I have done that, I have had no trouble at all, and everybody else has had trouble that has not put the clay on. The idea of putting the clay on, besides preserving the graft and keeping it moist, is also to have an absorbing medium to take up the sap.

I will suggest possibly the reason why some of those large roots failed to be grafted as easily as the smaller ones. When the sap is flowing too fast in the stock, the scion being retarded, there is a tendency for the sap to press around the point of union and the callosity does not take place, or the scion is not in accord with the growth of the plant. In the larger vine the sap will run more violently in the spring, than in the young plant, and possibly for that reason it impedes the union. That trouble could be avoided by grafting a little earlier, although you must graft after the sap commences to rise, otherwise you are wasting your time, as the callosity does not take place till warm weather and there is no union. You are simply putting a wound there to get sore or rot by the time that the sap commences to flow. I will relate an experience that seems contrary to theory. The best grafts I have made have been where my scions were actually sprouting, not that I intended to do that, but I had sprouted scions from France and I wanted to save the wood. I did not imagine that they would grow at all, but I had to save them, and every one of them grew well, but of course my stocks were also growing.

This year I grafted with scions that were so carefully prepared that not a single bud had started, that is, they had been retarded by being kept hermetically sealed, and then put in a very cool, shady place, and they were in perfect condition. Wherever they were put, in the field or nursery, I have had the poorest luck with them I ever had. I believe that there is such a thing as retarding the growth of the scion too much. I would rather have them come along a pace than to have the growth retarded too much.

Mr. Maslin.—I thought perhaps I had made the mistake that in the large stock the outer bark is apt to be thick and you may be misled by it.

Mr. Wetmore.—If you want to know how thick the bark is, examine it carefully; you may think you are inside of the bark when you are not. Mr. Crabb suggests giving the scion a little cantso as to throw it across the cambium layer. The union only takes place at the cambium layer and it is upon enlargement of that and the development of the other tissues that all the growth takes place. The split of the interior fibres never unites; it never fills up. Some people imagine that because the vine apparently swells over it that it is a solid union all the way through. It really forms its growth as though it had been simply budded on the side and then spreads around and takes hold of it. It is obstruction at the graft which causes the grafted vine to bear earlier and better than the non-grafted vine. The sap in rising carries simply water and mineral matters and perhaps a little ammonia, etc., from the soil, the sap which forms the wood is elaborated from the leaf and herbaceous tissues and descends downward. Wherever it meets an obstruction it tends to cause a stoppage of the flow. Tie a string tightly around a branch see what an immense limb above the ligature you will get for that season, though for the next season it may destroy it. Now if there is a great obstruction there that tends to keep the sap from flowing into the root, because a portion has to go there to build up the root, your root will not develop properly. You want a well developed root to graft on, or you will have a disproportioned top. If you graft on a very young feeble vine you will get an immense growth on top with a great swelling and a small root. For that reason I do not usually graft too soon.

A Delegate.—In the case of fruit trees, if you graft an almond on a fruit tree, it will develop a limb much larger than the stock.

Mr. Wetmore.—If you graft a vigorous vine to another variety that is less vigorous in growth the root keeps pace with the top by reason of the excessive vigor of the top, but other things being equal the weaker that root when you graft on it the less chance you have to make a perfect growth.

Mr. Maslin.—In grafting a peach and an apricot or an apricot and a plum, do you think it is a settled fact, that the wood does not grow together?

Mr. Wetmore.—No, I think not; the new growth surrounds it. I want to illustrate by this vine (showing a grafted vine) because you can see that it is not growing over here at all and never will.

A Delegate.—Will it cover it inside?

Mr. Wetmore.—It is really as though there was a branch there and you cut off the main stock.

As to another point Mr. Maslin has spoken of, and I take up your time because I have experimented probably more than anybody here in grafting vines, (pointing to a grafted vine) there was the length of the scion that was put in. I find that by cutting off, so that would represent the surface of the ground (illustrating) and leaving the bud a little above the surface of the ground is generally the best. If the earth is clayey do not cover it entirely. You must do something to mark its exact spot because when you are hoeing around in the Spring you want to know where it is. The most convenient way is to have little slivers of wood dipped in whitewash and in that way locate the scion because it is not easily seen.

Mr. Maslin.—Ought you not at two years old to have your stakes there?

Mr. Wetmore.—That does not show the place for hoeing, and you can very seldom get the stake right opposite. When a man comes to hoe he does not know where the scion is and is likely to hit it. It is easier to graft a rooted cutting than a seedling because it is straight work. You can see

by this sample that it was grafted at a slight depth. I would always graft a little deeper. I would graft at least twice as deep, but look out for this root that may fool you, and come right down in here through the cleft on the opposite side (illustrating) and you think it a root from the main stock; and looking for another one on the other side. Those two roots will destroy all your work if you are grafting resistant vines, because they will take the place of the resistant stocks you have been spending your money for. Keep these roots away and the safest and quickest way is to cover the union with clay. I think it is well after the first two years to examine them; but look down carefully and see if there is any root at the base of the scion, cut that away always, without any fear, do not have that growing, because it does it will ruin your growth.

The simplest and best of all methods that I can find is the cleft graft; in making the scion, bevel it so that it is a little thin on the inside, and then in cutting it cut clear across this pith, that you will find in all these scions, and then when you cut the other side you have a solid piece to insert. If I cut it down into the center the pith is exposed on both sides and in pressing it in it will bend and break off (illustrating.) Do not cut it clear to the pith, and on the other side quite across, and then you will have a sharp strong end to insert. If anybody is in doubt as to the manner of inserting the scion, if he will come down to our office, we will teach him to graft in ten minutes.

I have some resolutions to read before you leave that have been passed to-day and I hope you will all wait for a few moments. Can you give us any information on the subject of grafting Mr. West? Is there anybody who desires any information on this subject of grafting?

Mr. Maslin.—I have apprehended the point you have asked me. Has you ever grafted on a seedling and put it immediately into the nursery?

Mr. West.—Oh yes sir, I have tried that.

Mr. Maslin.—What is your experience?

Mr. West.—You mean grafting?

Mr. Maslin.—Take your seedling, put it in the nursery, and afterwards put it in the vineyard.

Mr. West.—I tried some last year and did it well enough with a few.

Mr. Wetmore.—I have grafted three thousand in one year and put them in nursery, and found I lost a very large percentage of them because while the root itself was taking new root the scion was dying out, whereas in grafting in the field you wait till the root is actually growing before you put your graft in and then there is nothing to impede the union.

MARKETS FOR VITICULTURE.
Obstacles in Trade and Carrying Vintages.

Remarks of Gen. F. Darr at the Third Annual Viticultural Convention.

Mr. President, ladies and gentlemen, when your Chief Executive invited me the other day to say a few words to you I told him I wished to be instructed and not to instruct, and his eloquence reminded me of some experience I had with a friend of mine who had gone to see him to ask advice about investing money and locating in this country, who said Mr. Wetmore talked a great deal of vines resistant to Phylloxera and all dangers of viticulture, etc., and she wanted to know what kind of a non-resistant there could be to Mr. Wetmore, for he convinced everybody that this was the best country to stay in and invest money. Very reluctantly, I agreed to say something about the traffic and sale of goods after you have made them. I do not presume being a tyro in the business, to say anything about viticulture, but being a manufacturer and connected with large manufacturing establishments all my life I have always found it was easier to buy goods than to sell them. I have traveled over your State in the last two or three years under different circumstances from those under which I first saw it. I have the honor to be an old pioneer of this State, coming here thirty-five years ago, and unfortunately left it because I thought it was dug out. I am forcibly reminded, by seeing you gentlemen from different parts of the State, of an incident that occurred at Hock Farm nearly thirty-five years ago, when I was enjoying the hospitality of General Sutter. He had a vineyard there and his first invitation to a traveler was to take a glass of wine and in his hearty way said "this will be a great country for wine some day." In his latter days in the East he often spoke of how little he had done for this country, while we were praising him for how much he had done. It was not my intention first to embark in the wine business here because I thought there were too many obstacles in it. Although, having had a large business connection with this coast for thirty-two years, I found it very difficult to get good California wine in New York, because all the good wines that was sold there was sold under a foreign label, or under a foreign nomenclature. All the bad wine, whether it came from California or any other country, was sold as California wine, and with all the advantages I had, by business connections, to get good wine in New York I found it impossible, and I could only get good wine by getting it direct from the vineyard, and that led me to the conclusion that the nearer the producer came to the consumer, so far as his interest was concerned, it would be the best for you as well as in other manufacturing businesses. For business, as carried on thirty or forty years ago, was quite different to what it is now. The middle man, the jobber and broker, the person who reaches the consumer, advance the price of the article so much that the first essentials of success in production, traffic and consumption are violated by the extraordinary expenses put upon what I would call your manufactured goods. And a few ideas have been hastily suggested to me, they are not original, but from a gentleman interested in the business, which I will take the liberty of offering you. In the first place after you have made your wine I contend that the greatest difficulties present themselves to you. You have had to overcome a great many difficulties by not having been brought up with the business, but, gathered from nearly all the vocations and pursuits of life, you have all turned your attention to what is destined to be one of the greatest industries of this State. Having made your wine the difficulties which present themselves for its successful sale are very great, and they can be classified into local, political and geographical obstacles. As you look into the local difficulties before you, you find they are creeping up and occur every day. I, this evening, had an experience of what I call the greatest obstacle to the success of viticulture in this State and that is the prejudices of American people against drinking their own wines. I have just come from dining with a hospitable friend who reminded me that on a previous visit to this State some seven years ago, and after visiting a great many old friends, and on coming

to his house to dine one evening, I complained that I had met a great many old friends who had not even on their table a bottle of California wine. He said you will not see it here. We ship it all to New York. I said I was afraid so, for the people there did not drink it. This evening on pointing to a foreign bottle of champagne I told my friend that it had an inherent fault, which he had said prevented the manufacturing of champagnes in this country—this was one of the list of reasons he had given me some time ago for the non-success of American wine—that it had a bad cork and I pledge you my word I never saw a worse cork in a bottle of domestic champagne than I saw in his bottle to-night, which I brought as a consolation to show my friend, Mr. Haraszthy.

I would like to say a few words if you will indulge me on the subject of prejudice. It is not a prejudice against the consumption of domestic products but it is a prejudice which is founded on false pride, a lack of moral courage. You have all heard this before and I am afraid I am only repeating what you all know, but you find it in all parts of the United States, and I find it as prevalent in San Francisco as I find it in New York and other Eastern States. That prejudice has got to be overcome, not only from a spirit of patriotism but from a spirit which will permit us to appreciate the pure and wholesome wines which you certainly make in this State as compared with the imported adulterations. In addition to that I only repeat what your Chief Executive has said in one of his reports that the hotel and restaurant trade is one of the greatest obstacles to the consumption of your goods. There is not a railroad station or restaurant or hotel in the United States but can afford in their charges of fifty or seventy-five cents or a dollar to give every customer a bottle of free wine for dinner. Acknowledging the origin of my thoughts on this subject I would also say that to give their customers such a glass of wine would not cost the hotel keeper or restaurant proprietor any more than a cup of good tea, a cup of coffee or milk. By that means, increasing your legitimate consumption of wine you will soon be on a footing with European countries. When we consider that the small country of France, hardly larger than our own territory, consumes some 1,500,000,000 gallons, at the rate of thirty gallons a head, that if we consumed the same proportion in this country we would require a product of 1,800,000,000 gallons in our own country. And yet you hear all around you complaints when our crop reaches the amount of 15,000,000 gallons, the cry of over-production. There is no danger of over-production but there is great danger of competition and the non-use of your wines in your own country; your efforts instead of being directed to increasing the consumption in foreign countries should be directed to increasing it in your own. This prejudice against the use of domestic wine, this hostility towards the wine of hotel and restaurant keepers, and the violent prejudices of a large portion of our community against what they call the sinful use of wine, are your main obstacles. I was very much struck a few weeks ago on meeting a friend at San Jose, whom I had not seen for 22 or 23 years, with a chastened puritanical expression on his face, quite different from the hilarious countenance that was familiar to us when in camp. I asked him what he was doing and he told me for three or four years he has been a lecturer for the good templars in the country and when I told him of the new business I was engaged in he considered me an awful example. Being very fond of him I reasoned with him and as one argument against the wine traffic he said that if the bonds of California were to be offered in the market in a few years they would not be worth more than the bonds of Mississippi which is called a whisky drinking State. But in this remark he made the mistake that so many fall into for wine drinkers are not drunkards. We are not a drunken community.

As your Chief Executive said this afternoon, so I would say, that the time has come also for an assertion of our rights and for no more apologies. I was reminded to-day when listening to him of a remark made by Bayard Taylor to some of his friends after a long European travel. I asked him on this occasion "What trait do

you find in human nature most common among the people from Iceland to the Cape of Good Hope and from Alaska to the Orkneys?" And he told me with a smile, and being a temperate man himself, that it was a disposition on the part of everybody to take 40 drops. He also remarked that he had noticed where wine was drunk there were temperate people and he gives this in all his writings on German, French and Mediterranean people.

You in California feel very safe on this subject of prohibition, and I allude to that as one of the obstacles of your business, for we are daily in receipt of letters from such cities as Detroit, which tell us that instead of buying any more wine they are prepared to abandon the business, the feeling there is so strong in favor of prohibition that they fear that they must not only abandon the business but the city, as occurred in Keokuk. To make your wines compete with that of another article of consumption, that of beer, which is increasing to an enormous extent in this country, they will have to be pure and wholesome when they reach the consumer, and it is your duty to do all you can to bring about a wholesome trade, and one of its means is to reach the consumer, not only in his family by enabling him to buy his wines reasonably but by encouraging him to do so. A friend of mine has written from an Eastern city saying that a great many houses are making a successful trade in California wine by distributing it by the gallon as they do in France. Another suggestion I would like to make to-night, with all good deference to those who have talked of it before, but it has interested me so much before my present occupation that I tried to establish it myself, is a large wine storage establishment on the shores of this Bay and in this unapproachable climate where wine can be treated and handled and stored more cheaply and better than in any other climate on the face of the earth. So that he who wishes to store his wine and raise money on his warehouse receipt will not be compelled at the end of one vintage to make ready for the new wine—to close out his first vintage, for, under proper conditions, a warehouse receipt for good wine would be as negotiable as Port Costa wheat receipt, and, unlike wheat, instead of deteriorating from year to year, its value would increase. If a wine grower is enabled to carry his product at reasonable interest for 3 or 4 or 5 years another great obstacle to the sale of your wine is overcome. I mentioned this, and know that it could be done, for in the effort to raise capital for this object myself, I found a universal desire to establish such a storage and bank for the vintages of this country. Therefore, outside of our own country and looking to foreign markets, no matter how favorably the present Commission, which left a few days ago may make any treaty with Mexico or Central and South America, it will not benefit us; for the American merchant does not go there and therefore the American merchant has no interests in them. I do not see how you can advance your wine interest in those countries to which we are looking with so much hope. The inhabitants of those countries are composed of English, German and French and their natural desire and interest are with their own countries. I think it behooves the wine growers of this country to make a wine market in their own country, and there will be no trouble about competing with the wine grapes of Europe. By the time that your product is 40 or 50,000,000 gallons the vineyards of France will recover their growth. You may have access to these foreign markets but you want more consumption at home. I cannot help feeling deeply impressed with the energy and improvement and progress you gentlemen by your personal industries and efforts have made this great success in this State. It is unlike any other manufacturing industry. You will not find among the woolen, cotton, candle or other manufacturing interest the same unanimity, the same friendly interchange of opinion as is witnessed in your convention here. I am satisfied that with pure and wholesome wine, and a strong effort to punish the spurious adulterators, who are injuring you, not only in this State but in the Eastern market, that when your product has reached 40, 50 or 100,000,000 gallons you will find plenty of consumers in your own country for it.

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WINES AND BRANDIES.

Honest Lab Straight Goods
—The Law of Human Nature—
Down with Frauds.

EDITOR SAN FRANCISCO MERCHANT: We recognize you here as the exponent and great helper of the vine grower of the State. We feel that you are educating the vineyardist of the State and that you are ever awake to all matters which tend to the benefit of viticulture.

We have been surprised, however, that so little notice has been taken by you of the resolutions introduced by myself in regard to having a law passed by Congress for the purpose of preventing the sale of adulterated wine and brandy for genuine, by compelling all wines and brandies sold to be sold under the mark or label of the producer. If this can be accomplished it would be of immense benefit directly to the grower and in the end to the trader. It would do more to make genuine products desirable and to sell them, than all other expedients that have ever been talked of, for the public wish pure straight goods which are healthful. Many do not drink wine and brandy for they don't know what they are drinking, whether compounds of glucose, beet sugar coloring matter, flavoring extracts and other deleterious substances or the pure product of the grape. Such a law would make it a self evident fact that what they bought was what it was represented to be and convince the public that they can procure the pure product of the grape, pure as God and natural processes made it. This would double the demand in one year and the California viticultural problem would be solved. There will be no over production, the trade will be glad to buy all the wine the vine-grower can make, he will too buy it when young and keep it until it matures and sell it when it is at its best for consumption. There is no use talking about combinations, that the trade is trying to depress prices, that they are leagued together to buy cheap. All are only too willing to pay a fair price, if they can only sell again for a reasonable profit. This is human nature, it is the law of trade, the law of supply and demand and to talk anything else is only misleading and getting people into trouble.

It may be well to urge vineyardists to make their own wine for it may become a necessity and to prepare their minds before hand will be beneficial, but it would be still better to club together, build a large cellar, fermenting house, crusher etc., and hire some competent person to make the wine, for if every grape grower makes wine there will be a great variety of product and many mistakes which will result in much poor wine. It is easy to instruct, lay down rules and make believe that it is an easy matter to make wine, yet good wine makers are scarce and it requires a special adaptability, much experience and study to make a successful one and it will be only a few who will ever excel. There is not one man in ten among grape growers who is an exact judge of good wine, that can tell the subtle differences of different qualities of wine, and it takes years to acquire this nicety of judgment, and, after all, it is more in the nature of a gift than a practice. It is a simple matter to make good bread or butter, yet, take one family with another, and those who make the best of either are much in the minority.

But I have entirely got switched off from the subject I started out with, that is, your

favorable opinion in urging the passing of a law against the adulteration of wine, that is, a law compelling all beverages to stand on their own merits by setting forth on the package or bottle by whom made, of what made, and if a compound or a mixture, how it is mixed, and of what ingredients it is made. This may work some hardships to mixers or compounders that make imitation Wines and Brandies, their occupation may cease, but it will be of incalculable benefit to the honest producer. The one class will work hard against the passage of such a law, but this makes the help of every producer more imperative, and an incentive to make him work all the harder. This law can be passed, if we all put our shoulders to the wheel, for it is just, it is right, it is in the interest of public morals, of honesty, of fair dealing, of the maintaining of good health and of temperance, for if the temperance question is ever solved it will be by the general use of a light wine, cheap enough so that it can be used by the poor as well as the rich, for man is a creature of excitement and requires a stimulant. To make him otherwise, were it possible, would be to make him a stick, without affection, without love or ambition.

I am told there are some difficulties in passing such a law, that this would be interfering with the inter-commerce of the different States, and that Congress has not the constitutional right to do it, without it were a measure for revenue. If this is so then let it be called a measure required for revenue, and let the revenue be so small that it will pay the necessary inspectors (or whatever they may be called) to pay for their work of affixing stamps, and this cost need not be more than a quarter of a cent a gallon or bottle, or even less, and who is there that would not be willing to pay even four times as much to have the stamp of genuineness placed on his product, and thus shut off all deleterious and fictitious productions.

Let those who are now making imitations and compounds, if they find their occupation gone, join our ranks, and they will find more profit in making the genuine article, and such men as can even make wine without grapes would be valuable acquisitions to our wine interest, and help make California, in fact, as well as by nature, the most favored wine country in the world.

L. J. ROSE.

Sunny Slope Vineyards, San Gabriel, May 11, 1885.

WANTED IN FRANCE.

The following copy of a letter is one of many received by the State Viticultural Commission, and shows that the knowledge of California Viticultural work is extending abroad, and that our experience and opinions are sought for:

CHATEAU DE CANTELOUP, April 28, 1885.

Mr. Wetmore, State Viticultural Commission, San Francisco:

DEAR SIR—I have learned that you have just published an important work on the culture of the vine in the different districts of California.

I take the liberty, as a viticulturist of the Department of the Gironde, near Bordeaux, and as a member of the Society of Agriculture of France, to ask you to let me know how I can purchase your work and what is its price. I should be pleased to read the opinions of a man of your ability and position on a question so full of interest. Please accept, my dear Sir, my thanks in advance, and the assurance of my most distinguished consideration.

LEBEAUD.

LIVERMORE VALLEY.

**A Choice Location For Vineyards—
 An Increasing Industry—Success In
 Planting—Good Varieties.**

The formation of the soil throughout Livermore Valley is very similar to that in the Cupertino District, especially in the neighborhood of Stevens Creek, in Santa Clara Valley. The same rolling lands, forming well-drained benches, composed of gravelly loam suited for nothing so well as the vine are to be found, only more extensively, than in the above mentioned neighborhood. Three years ago there was hardly a vine in Livermore district. It occurred to Mr. J. F. Black, one of the extensive land owners in the State, to experiment in cultivating the vine, as it was then attracting so much attention elsewhere. He called to his assistance, experts such as Charles A. Wetmore and Professor Hilgard, before planting. Upon their arrival in the neighborhood, which was new to them, they were immediately impressed with the fine prospects for vineyard business—situation, climate and soil all being in favor of ultimate success. Lots from 20 to 40 acres in extent have been sold to different parties since that time, and to-day there are nearly 3,000 acres, planted in vines, under excellent cultivation.

Fortunately the Livermore folks had the benefit of the experience of those older in the business to guide them, and consequently they commenced work very differently from the early pioneers. Only the best known varieties have been planted, and systematic work has been the general aim. Resistant stocks have been used extensively for future grafting purposes, although there are, at present, no apprehensions of phylloxera. In the Livermore wine district the Chaintre system of planting, allowing the vines to run naturally along the earth as the wind lays them, without stake or support, has been tried and found successful. As far as can be ascertained, this is the only district in California where this method is practiced. The vines are planted 7 by 14 feet apart. Every variety tried has succeeded admirably except the Malbec, which showed a tendency to grow upright, but this variety even may prove adapted to the Chaintre system when the cane becomes longer and the foliage heavier. All long pruning varieties will certainly bear better under this mode of cultivation.

The Guyot system, also practised in France, has met with success at Livermore. The wood which will form the following year's bearing canes is tied to the stake and remains there until the next year. Several varieties, for instance the Trousseau, which failed to bear well in other districts, have been a paying success at Livermore when raised under this system, as it gives much greater opportunity for bearing. In the Guyot system the vines are planted seven by seven feet apart, and it might be of advantage to try in other districts some varieties which have failed, under other methods, by the Chaintre and Guyot systems.

The Olivina Vineyard is the most extensive in the Livermore district, comprising 400 acres. Mr. J. P. Smith, the owner of the estate, takes great pride in his work, and is now excavating into the side of a hill for the purpose of constructing a cellar, as he intends to make his own wine this season. He has 26 different varieties of grapes planted, the largest proportion being Zinfandels and Mataros.

Mr. J. F. Black has over 200 acres under cultivation in the following varieties of vines. He is making a specialty of red wines, and has planted accordingly:

	Acres.
Zinfandels.....	50
Resistant Stock.....	50
Trousseau.....	21
Petit Pinot.....	21
Meunier.....	19
Malbeck.....	16
Chauche Noir.....	16
Charbonet.....	16
Mataro.....	3
Cabernet Franc (grafts).....	3

Mr. Aguillon has the principle winery in Livermore, which is in charge of Mr. J. Mortier. Last, but not least, the district boasts of being the one selected by Mr. C. A. Wetmore, the Chief Executive Viticultural officer, for his vineyard and future home.

YOUNG CALIFORNIANS

Who Are Scientifically Studying Viticulture and Viniculture.

Mr. Charles W. Sutro, son of Adolph Sutro Esq., of this city, well known in mining circles, is now in Bordeaux, France, and has written to the State Viticultural Commission for information to assist him in directing his studies on viticulture which he intends to pursue, with the intention of making his efforts hereafter of practical advantage to the industry in this State.

In like manner, the son of our distinguished fellow citizen, James De Fremery, long connected with the San Francisco Savings Union, is pursuing, in connection with other studies, the special investigations of questions pertaining to viticulture and viniculture. Last year he wrote requesting the State Viticultural Commission to forward to him samples of California wines for analytical studies at the University where he is pursuing his work, and he has since requested the Commission to advise him as to further prosecution of such investigations with a view to becoming expert, if possible, aided by the scientific facilities which are surrounding him in Europe in viticultural studies.

A number of young men of this State, sons of our most progressive citizens, are co-operating with a developing spirit of inquiry that is now giving promise of great future advantage to our industry. These young gentlemen, being fortunately situated so that they can pursue their studies with ample means to perfect their education, are seeking those portions of the world where scientists meet in perfect harmony with practical experts, and where a spirit of true criticism prevails. They have a golden opportunity to acquire, together with scientific knowledge, information which will be of practical value throughout their lives.

Practically speaking, the foundation of a critical knowledge of wines will depend principally upon the development of a critical taste under circumstances where it is possible to develop the same, being aided by scientific instruction. Such students will be, in future, of immense advantage in this State in using critical and practical, as well as scientific standards of judgment. In Europe, and especially in France, the sharp distinction between purely scientific investigation and technical knowledge is drawn, so that there is not so much confusion in the minds of students as there is at the present time in the undeveloped condition of similar studies in this country.

It is expected that silk culture will become a permanent industry on the Hawaiian Islands. There is no doubt that silk can be raised there, but it will be necessary to erect a filature, small at first, with one experienced reeler as worker and teacher to others. Such a course would insure success. This is an industry that might well be assisted by the Hawaiian Government, perhaps in connection with the public school system.

STATE OF CALIFORNIA.

Board of State Viticultural Commissioners.

SAN FRANCISCO, May 14, 1885.

To the Local Resident Viticultural Inspectors:

The Commissioner for the San Francisco Viticultural District, in accordance with the provisions of the law, has called a Convention of all practically interested in industries and commerce, dependent upon viticulture, within said district, to be held in the city of San Jose, on the 27th, 28th and 29th of May. A cordial invitation to attend the sessions is extended to all persons, whether residents of this, or other districts, who are interested in the subject matters to be discussed, without the formality of special notification. Local Resident Inspectors are requested to make this call and invitation known to the public in their respective localities and to assist the Commission in urging the importance of securing a large and representative attendance at this, as well as at all other similar conventions.

These conventions are intended to serve as opportunities for gathering information of practical value and for the promotion of harmonious relations between all who have interests in common, affected by success in viticultural pursuits. In order that individual opinion may not be unnecessarily antagonized, formal expressions by vote of those in attendance will not be elicited, each being free to form his own conclusions as to the merits of any proposition that may be discussed from different points of view. Resolutions and motions, concerning unexpected subjects, not contemplated by the programme of topics previously announced, will not be in order, and no motions, requiring the vote of the Convention, will be submitted unless the same have been duly announced and referred to a committee one day previous to the action of the Convention.

The presiding officer, as required by law, will be the Commissioner for the district.

The sessions will be held in the hall adjoining the California Theater.

The work of the Convention will be as follows:

WEDNESDAY, MAY 27th.

10 A. M.—Inspection and study of samples of viticultural products.

1:30 P. M.—Reading of papers and discussions relating to practical experience in fermentation, distillation and cellar management.

8 P. M.—Reading of papers and discussions on practical viticulture and viniculture in the French language.

THURSDAY, MAY 28th.

10 A. M.—Continued inspection and study of samples, etc.

1:30 P. M.—Reading of papers and discussion of general rules based on practical experience and scientific research, relating to vinification and the care of wines.

8 P. M.—Continuation of preceding subjects. (If found practicable to conduct the work during the evening session in the French language, announcement to that effect will be made at the close of the evening previous.)

FRIDAY, MAY 29th.

10 A. M.—Continued inspection and study of samples, etc.

1:30 P. M.—Reading of papers and discussions of questions pertaining to markets and necessities of increased facilities for maturing viticultural products.

8 P. M.—Discussions concerning mercantile prospects, obstacles to trade, and remedies for difficulties lying between producer and consumer.

A committee will be appointed to take charge of and direct the order of inspection and study of samples during the morning sessions. No formal report on qualities of exhibits will be required from the committee, but each of its members will be invited to preserve notes of observations and criticism to be submitted by the Chairman to the Viticultural Commissioner for publication. Experience has demonstrated that it is impracticable to attempt to obtain critical reports on matters involving questions of taste and the determination of mercantile values, wherein several examiners are called upon to unite in judging many different samples. The committee will, however, have ample opportunity to report upon the merits of all exhibits, concerning which they desire to express a concurrent opinion.

All questions of local rivalry and personal competition will be carefully excluded from the convention and from all official reports. The only rivalry that should be encouraged during such Conventions, conducted under the auspices of the State, should be in the effort of each section to acquire the greatest possible information and advantage from the experience and studies of fellow citizens of other sections—a frank and sincere public spirit on the part of all, free from provincial feeling, characterizing all critical discussions.

Exhibits for instructive sampling and comparison, but not for competition, are specially desired. They should be sent by express, addressed:

THE VITICULTURAL CONVENTION,
Care of L. D. Combe,
SAN JOSE, Cal.

They will be received and stored carefully and should arrive in time to be classified on Tuesday, May 26th. It is difficult to properly arrange and examine samples that arrive while the Convention is at work.

Brief papers on the true history of the original introduction of different varieties of vines into the District, to assist in our nomenclature and classifications, will be of special interest; but there will be no time for general discussion of topics which they may suggest.

The counties, comprising the San Francisco Viticultural District, are San Francisco, San Mateo, Alameda, Santa Clara, Monterey and San Benito.

The Secretary of the Commission will be prepared to exhibit, under the microscope the germs of different fermentations and specimens of vine pests. Mr. F. W. Morse, Inspector at Berkeley, will report upon investigations of advances made by the phylloxera; and Professors Rising and Hilgard of the State University are expected to take part in the discussions.

Wine merchants, dealers and brokers and capitalists, who wish to study the opportunities that our industry may offer for investments and new enterprise, members of the State Legislature and Congress, and officers of the State and Federal Governments, members of the medical profession, scientific students, teachers in public and private schools, manufacturers of vineyard and cellar supplies and apparatus, proprietors of hotels and restaurants, and other retailers of vineyard products, representatives of transportation agencies and members of the press are among those who are specially invited to unite with vine growers and wine makers in these conventions.

CHAS. A. WETMORE,

Chief Executive Viticultural Officer and Commissioner for the San Francisco Viticultural District.

OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO.'S STR. SAN BLAS, MAY 15, 1885.

TO NEW YORK.				
MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
F A, New York	Lachman & Jacobi	25 barrels Wine	1264	\$ 510
G, in diamond, New York	"	20 barrels Wine	1002	430
E L, New York	"	15 barrels Wine	753	323
P L, New York	"	8 barrels Wine	401	187
V S & B, Brooklyn	"	15 barrels Wine	751	332
E C, New York	"	10 barrels Wine	484	220
J B, Hoboken	"	5 barrels Wine	243	142
E B & J, New York	"	75 barrels Wine	3664	1278
N, in diamond, New York	"	50 barrels Wine	2457	1316
R A G, New York	"	10 barrels Wine	506	268
G O, Buffalo	"	6 barrels Wine	290	249
K Bros., Buffalo	"	15 barrels Wine	751	432
F & S, New York	"	2 half barrels Wine	55	33
F, in diamond, New York	"	70 puncheons Wine	10079	3503
K & F, New York	Kohler & Frohling	180 barrels Wine		
"	"	7 casks Wine	11937	6915
"	"	17 puncheons Wine		
B D & Co., New York	B Dreyfus & Co.	145 barrels Wine	6805	2820
S, New York	"	50 barrels Wine	2473	1600
S, in diamond, New York	"	20 barrels Wine	990	400
E B, New York	"	10 barrels Wine	494	180
A V Co., New York	Walter, Schilling & Co	60 barrels Wine	2884	1442
T, in triangle, New York	"	40 barrels Wine	1877	938
C K, Newark	"	20 barrels Wine	954	477
G G, Lancaster	"	4 barrels Wine	190	95
"	"	3 octaves Wine	78	39
W W Son & Co., Philadelphia	"	4 casks Wine	315	157
F, in diamond, New York	S Lachman & Co.	25 barrels Wine	1100	478
K, in diamond, Pittsburg	"	3 barrels Wine	138	103
L, in diamond, Pittsburg	"	7 barrels Wine	330	191
"	"	1 barrel Brandy	39	146
Dr H A Tucker, Brooklyn	"	1 barrel Wine	49	61
T M, Boston	Dresel & Co.	3 barrels Wine	157	93
M & S, Rochester	Arpad Haraszthy & Co	10 barrels Wine	489	350
"	"	1 barrel Brandy	41	95
Total amount of Wine			54650	\$25629
Total amount of Brandy			80	241

TO CENTRAL AMERICA.				
R S, Corinto	Eugene de Sabla & Co.	80 cases Wine	400	320
"	"	1 barrel Wine	49	27
B C & Co., Corinto	"	1 barrel Wine	50	37
D de Novello, S J de Guatemala	J M Tinoco & Co.	6 cases Wine	30	24
E C J W, San Jose de G'mals	John T Wright	2 1/2 barrels Wine	53	39
L S, Guatemala	B Dreyfus & Co.	4 1/2 barrels Wine	106	75
"	"	1 barrel Whiskey	40	100
Total amount of Wine			688	\$523
Total amount of Whiskey			40	100

TO MEXICO.				
Eguarte Zapotlan	J Gundsch & Co.	4 half barrels Wine	79	89
O v H, San Blas	Moller, Mantz & Co.	6 barrels Wine	120	100
"	"	1 package Wine		
"	"	1 box Wine	15	10
F O, Acapulco	"	4 barrels Wine	60	50
G & H, Manzanillo	Thannhauser & Co.	2 barrels Whiskey	56	154
A M & H, Manzanillo	Langley & Michaels	30 cases Wine	150	112
P M & Co., Acapulco	W Loalza	2 barrels Claret	94	70
P D & Co., Acapulco	"	4 casks Red Wine	236	87
"	"	2 casks Red Wine	118	43
A V, Acapulco	Urruela & Urioste	2 casks Red Wine	117	51
L B, San Benito	Eugene de Sabla & Co.	60 kegs Wine	600	390
Total amount of Wine			1589	\$1002
Total amount of Whiskey			56	154

TO PANAMA.				
C B, Panama	Eugene de Sabla & Co.	25 cases Wine	75	102

TO SCOTLAND.				
Mrs D Hutchison, Glasgow	S Lachman & Co.	5 cases Wine	25	32

MISCELLANEOUS SHIPMENTS.				
DESTINATION.	VESSEL.	RIG.	GALLONS.	VALUE.
Mexico	Newbern	Steamer	464	\$386
Japan	Arabic	Steamer	25	18
Victoria	George W. Elder	Steamer	194	296
Honolulu	Alameda	Steamer	832	765
Total shipments by Panama steamers			57,203 gallons	\$27,786
Total shipments by other routes			1,515 "	1,465
Grand totals			58,718	\$29,251

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208 CALIFORNIA STREET.

PHYLLOXERA AND RESISTANT VINES.

Opinions of Professor Hilgard, Professor Morse and Mr. Wetmore.

[From the Report of the Third Annual Viticultural Convention.]

Dr. Behr, Mr. Wetmore said, is perfectly right technically when he says that it is not the phylloxera that kills the plant but the fungus that rots it; but it is the phylloxera that makes the wound on which the fungus comes. The blood poison may follow the pistol wound but it is the pistol after all that kills the man. Here is an Arizona which did not make much development but you can see the growth of healthy wood on it, and I have yet to find any wounds or evidence of disease. I have examined some recently that were set out by Mr. Dresel in the poorest land he has, in land where everything else that was put out was destroyed. The Arizona was as bright and as green as lettuce in a vegetable garden. I am going to have some of those vines dug up and see if I can find any wounds on them. I do not know how the Arizona will serve as a grafting stock. I have got to graft some this winter and I will then know more about it. As, to their growth I find them a splendid success. They stand the most violent heat and the most violent drouths, and will also grow well in the vicinity of the rivers and also in low places, provided there is sufficient heat, and I think they will serve a great purpose in some parts of the State. I would like to call on Professor Hilgard and ask him if he is prepared to make any report on any other remedy, especially that suggested by Dr. Bauer. Dr. Bauer was expected to be here to-night but for some reason he was away and we could not get him. The fault was in giving notice too late. The remedy suggested by Dr. Bauer has been talked about a good deal. Professor Hilgard and Mr. Morse, who have been examining the subject will be able to add something to what has already been said.

Professor Hilgard.—I will add a few words to what Mr. Wetmore has already said in regard to the resistant stocks. I heartily endorse what he has said regarding the California. I have so much confidence in the stock that I have planted three-fourths of my own vineyard in California stock, and the only thing I have to regret is that this year, in consequence of the Summer rain, it has been affected with mildew, but the mildew came late and did not affect it very severely and I do not apprehend that it will be any serious set back. Next year if we should have a normal season I do not doubt that they will make a growth as much in advance of most of your stock as in the cases already shown you. I have found also, as Mr. Wetmore states, that the Rupestris makes a very slow growth, but I will remark that the root system of the Rupestris appears to be adapted to soil which is not as deep as required by the California. Several cases have come to my notice where the deep, straight down root of the California has failed to find all the depth necessary, and in spreading out it has seemed to suffer. These cases have occurred in the Santa Cruz mountains particularly, and probably also there the mildew has slightly affected the vine. The mildew alone is sufficient reason why we do not find the California along the coast. We have to go on the other side of the Coast Range a little way before we find it, and I doubt not but what the mildew is to blame for that. But I am satisfied that under ordinary circumstances, in ordinary seasons, we should have no difficulty at all in the Santa Clara valley with the California. As regards the root system and the resistant I will state that at the University three years ago we planted a number of California seedlings almost precisely under the same circumstances as those mentioned by Mr. Wetmore and they all have shown precisely the same results, with this addition, that this year the seedlings have borne a dozen fine bunches, which did not ripen at Berkeley because we cannot ripen any grapes there, but the grapes were ready to ripen if the climate had allowed it. These very vines, with others along side, were planted in strongly

phylloxerated holes, and I will here say that precisely, as in the case in Sonoma, we found that the roots of the stocks we had taken out of the old phylloxerated stocks were still green and infested with the insect. It is therefore perfectly useless to attempt to extirpate the phylloxera by pulling up the vines. It is quite impossible in that way to clear out even the vine itself. The roots remain leaving a road to furnish the phylloxera to any vine that will be planted for three years to come. So it is perfectly useless as against the insect to pull up the vine. When you take out the stock that is all that you can do. Now planting the California in that hole the root becomes covered with the insects and the insects make a wound which is perceptible just by a little circle around it. The reason why it does not decay, I think, may be found in the thickness of the cortical layer of the root; in the European vine, the vinifera, this layer is comparatively thin. The root every year turns into wood. As soon as the fruit has ripened the outer layer becomes wood. In the case of those vines the swelling is not a simple ring shaped swelling but is somewhat rounded and turned in. You will find in making a section of one of these roots, in attempting to ripen, that the cortical layer is folded into the others, it turns into wood and that wood dies. The outer layer being unable to be cast off, as it usually is, dies inside, the fungus takes possession of it and then as a matter of course the fungus kills the vine. In the California it simply makes a circle or mound around the wound and that is the end of it. It does not turn into wood, there is no cortical layer to cast off and the same reason does not exist for it to decay, and I attach very little importance to the chemical condition of the sap. I think it is the texture of the cortical layer of the rind that makes the condition and the difference in the manner with which it resents, as it were, the attack of the insect. So much for the resistant which I consider completely proven, and in which I have stated what little I have to report on the matter.

I find that the Riparia cuttings make a very rapid growth the first year. They have in the Santa Clara valley I think proven more satisfactorily than the seedlings and I think the cuttings are preferable to the seedlings, as the Riparia seedling has the fault of making an excessive number of surface roots. In later years this surface will increase and at all times in the dry season you will find a large bunch of such rootlets within six inches of the surface in the dust and dry ground. These roots cannot exert much nutritive effect upon the vines, and it is just that much root system thrown away during the dry season, and to that extent it would seem that Riparia cannot be as good as the California, as the California has deep roots in the ground and will flourish under those circumstances.

As regards the remedy proposed by Mr. Bauer it consists in placing around the stock of the vine a greater or less amount of finely divided mercury. This finely divided mercury has the name of blue mass. It is nothing more than metallic mercury finely divided up by the intervention of some foreign body, that foreign body may be oil or ointment or any kind of clay or mucilage or anything of that kind. If mercury be rubbed in a mortar with any of these things, even the white of an egg will answer the purpose, it becomes divided up and finally you get black ointment which is known under the name of blue mass in different preparations. This blue mass can be diluted to any extent. You can mix with it, without any difficulty, a large amount of inert matter.

You can mix it with clay to any extent and the globules of mercury are so fine that it takes, not the lens, but the microscope to detect their presence. Under these circumstances the mercury has, of course, all the properties of metallic mercury still, except the apparent fluidity with which we are all acquainted. It therefore evaporates, and mercurial vapor is well known to exist on the surface of all metallic mercury, and it causes the violent diseases which frequently affect the workers in mirror establishments and also in mercury works. We observe that the same diseases do not affect the workers in the mines. The workers in the Almaden mines are just as healthy as anybody else, but those who attend the

furnaces and those who handle the metallic mercury are the ones who suffer. It has been suggested by a number of persons who have written to me on the subject, why not take mercury ore or cinnabar. That is not any better than iron ore because the mercury is not in the metallic condition and does not evaporate. The minimum amount of mercury which it is necessary to pour around the vine, to produce a sufficient circle of vapor around the vine, has not yet been determined, but Dr. Bauer went to work and for a good many years has been experimenting on the subject prompted by the observation made long ago that the insects which frequently attack zoological collections are prevented by introducing a little metallic mercury into the boxes provided they are tight, and found very soon that the action of this mercurial vapor, which always surrounds the globules of mercury, kills all manner of small insects and amongst them the phylloxera. He argued that if the stock of the vine, through which the insect is usually supposed to make the attack, crawling down the stem, is surrounded with vapor of mercury by introducing this blue mass into the earth, the insect may pass in a little way, but cannot pass on through the root and so the vine will be protected. That would be strictly true if the attack of the insect were always made through the top of the vine. Unfortunately this is not true. It is well known that at a certain time of the year the insect will run glibly over the surface of the ground and then get down through a crack to whatever roots it may find, and there is the weak point of the remedy because it is applied only to the stock. But there is this proviso, if the application around the stock does not imply that the vapor, and therefore the mercury itself, gradually will make its way along the root and in that way protect the whole plant. According to the observations made by Mr. Morse who will address you presently on the subject, it appears that this is the case. The mercury is supposed to be effective in preventing the insect from crawling down the stock on which it has alighted or on which it has been hatched. The vapor appears to follow the roots down into the ground and in that way to impregnate a much wider area after a while and every year more. We are not aware to what extent the dilution can go, how much metallic mercury infused into the soil will produce a vapor that is deadly to the phylloxera, but in all events it is well worth trying, and particularly well worth trying to those who plant cuttings. Those who insist on planting cuttings will do well to experiment by surrounding the cuttings with mercury, provided they have light soil. In soil that cracks open, I think it would be useless to attempt the remedy. In adobe soil, which is not always kept in the best possible tith, it would not do. Whether it will cure a root once badly infested I doubt, but still it is worth while to prolong the experiment and see to what extent young vineyards now infested in Sonoma, and a great many have been planted with non-resistant stock, can be affected by this remedy. We do not know to what lengths the mercurial vapor might go. There is this much about it, it is not like some remedies that evaporate away, it stays there. You may cultivate the soil and it still stays there. I do not think there is any danger of the plowmen getting mercurial poisoning, nor do I believe, as a distinguished German viticulturist has suggested, that the mercury will pass into the wine and mercurialize the consumer, nor do I believe it is noxious to the vine, for the experience of Mr. Bauer would seem to the contrary. A letter received lately from a very distinguished Oenologist suggests both these difficulties, but I do not think they can be taken into consideration. I do not believe a wine can be mercurialized, and we know that it does not kill the plant, I will still say to those who want to plant vineyards extensively that while this remedy is being tested, until they know it is perfectly successful, it is better to plant resistant stock, as resistant stock is now very generally to be had and as the grafting is a very small expense and loss of time compared to the absolute security it gives, if grafted upon the proper stock. As for those who in phylloxerated districts actually plant non-resistant vines it is a sheer sacrifice of money. Nevertheless the extent to which it is done in Napa

and Sonoma counties is somewhat astonishing. The idea that the phylloxera is a mere passing epidemic, still has its hold upon some persons, but it is the sheerest self-deception. The phylloxera is an insect at home in the United States. It has found a congenial place to live in the European vine. It infests the vines in the East and will forever infest them because they have grown up under its reign. It has always been there, and the very fact, that those vines exist in the United States, show that they have become accustomed to the insect and they have come to an understanding about letting each other live. They attacked the European vines into the State of Illinois, and, as necessarily must be the case, failed in making it succeed, because the insects were everywhere in the wood, and therefore very soon took hold of the vine, and very soon killed them. They came to bearing in the fifth year and then declined and very gradually all died out. We knew nothing of the phylloxera at that time but from my youthful recollections on the subject I feel quite confident it was the same old insect that has given us so much trouble in France, that killed those vines some 40 odd years ago. That is at least one of the governing reasons why the European vine cannot be grown in the Eastern States, because the phylloxera is everywhere. In California, as yet, it has not scattered all over. It is extremely likely that it will spread all over, and the preventive measures which have been taken in France, have met with so little success that I think it proves we will not be more successful. The spread this year must have been enormous. We have nursed, at the University, a little private experimental plot that is infested. We did not infest it purposely but it came to our hands infested, and we thought as long as we had it there, with no other vines that would be hurt about it, as the vines cannot bear anywhere in the neighborhood of Berkeley anyway, being pretty well protected against any outgoing enemy, we thought we would keep the insects on hand to make an experiment and study its habits in California. Until this year it was generally found by Mr. Morse, by the way, who has had charge of that subject, that the coming out of the winged insect through which the infection is spread far and wide on the wings of the wind, happened in about five or six weeks. This year with Summer rains it has been through three months and a half, was it not Mr. Morse?

Mr. Morse.—Yes sir, nearly four months. Professor Hilgard.—For nearly four months that lovely insect was coming out of the earth and being spread by the wind. From our locality it could not be spread very far, but you may imagine what must have happened in the interval in the Napa and Sonoma valleys, when we think of the comparatively short time in which it is ordinarily coming up out of the ground. You have noticed the experience of an ant hill when the winged ants are coming out that is just about the appearance that the vine had at the time these insects were coming out. You could not watch more than a second or two before one would come, and then another, and then still another, and that going on for nearly four months. You may imagine how many spread abroad over the infested districts in the upper valleys. It is very unfortunate that nothing has been done prior to this year, but now the cat is out of the bag and it will be very hard to catch it. It certainly should be the endeavor to enforce the disinfecting of vines, coming from infested districts, or the bringing in of infested cuttings from infested districts. At any rate they should be disinfecting. It should be done under the law, which compels each one to attend to that, and not to carry the infection amongst his neighbors. Every one who imports and plants infested cuttings is committing a great crime against the public welfare. He may ruin hundreds of thousands of dollars' worth of property belonging to others. It is simply criminal and the law should so consider it, and it should be made sufficiently effective this year. Where there is any danger of infection, or even before, I would recommend the employment of the remedy which Dr. Bauer had advised in well cultivated light soils, where it is an admirable protection, and if it will not completely do away with the danger it will at least diminish it very much. In light sandy soils I think it may prove a complete protection,

for vines that are not infected now. In adobe soils that are not kept well tilled and which may crack, and sometimes it cracks in spite of our best efforts, I think it doubtful that it will be successful, because of the ease with which the insect may alight on the ground and crawl into the cracks. And few people who have not seen it can realize how these little insects swarm on the surface of the ground at certain times. Sometimes a little earth clod, no larger than my finger, would have a dozen on it, and they would keep moving and tumbling over. One reason why they do not land well on sandy soil is that they cannot crawl without tumbling over each other, and fall on their backs, and struggle a long time before they can get on their legs again, and as soon as they succeed in recovering themselves they fall over again, and they finally tire and give it up; but on the clay soils where the particles are solid and large, they walk along without any difficulty, and crawl down through the crevices, and can reach any of the surface roots of the vines, and the surface roots are precisely one of the peculiarities of all of the most valuable of European stocks. [Applause.]

Mr. Wetmore.—Before I forget it, I want to call attention once more to these seedlings. Here for instance, was a grafted seedling, and you will observe that there is no sign of suckering. I have grafted a great many and have found no trouble with suckering. Of course the suckers might start out at first, if grafting is done at the crown, but when once removed they do not seem to reappear. The objection has been used to the use of seedlings by one gentleman who discussed the subject that they are more likely to sucker. I would like to know why? There are no eyes or points to start suckers from, except as they may be forced out by sap below seeking to gain exit, the top having been pruned too closely or as the vine gets older. All the eyes are cut off in the seedling when grafted. The fact is that they do not sucker. The people who say these things are people who have not practiced any. Here, for instance, is a rooted cutting. There is something that is liable to a sucker, and for a good reason. Before that was planted at every one of these joints there was an eye—a bud—those buds are retarded from coming out by the growth above, but when you commence cutting and pruning, why the germs of those buds in years afterwards may keep starting, and if you do not cut them out carefully you are all the time starting new suckers, and for every bud there are at least four eyes inside. There is a possible danger of suckering from rooted cuttings that can be avoided by the method of propagating them in a great measure and also by promptly removing them.

A Delegate.—Is there much trouble in rooting California cuttings?

Mr. Wetmore.—There is, but I find that it varies according to the localities. Mr. West says that he finds it very easy in Fresno county to root the Lenoir, but I do not know of any place where it is. I have rooted the California and have lost nearly two-thirds which makes it a very difficult process, and expensive. It was in a very moist soil at Pleasanton where all other varieties grew beautifully.

Professor Hilgard.—In an experiment, made with about 100 species, we rooted about 85 per cent of the California cuttings.

Mr. Wetmore.—Of course, if you can find a place where they will root well I would advise everyone to get the cuttings and root them. Now, in rooting the Olive, it has been found very difficult, and that is one reason why people do not go into it more, and yet I know a gentleman who took some olives over to Saucelito and they all rooted well. I am speaking of the general fact that people who try to plant the California by cutting get a very large percentage of loss.

A Delegate.—I would like to ask one question about the resistant vine. If planted in phylloxerated ground and grafted with the European variety that is desired, will it raise a good healthy large crop of grapes from the stock?

Mr. Wetmore.—The only way I can answer that question is by saying that I wish people would read some of our reports which we have been publishing for the last five or six years, and stating these facts as so. They have been planting resistant

vines by the millions in phylloxerated vineyards in France and have been getting very large crops, and we have them in this State, bearing in Napa and Sonoma counties, we have published this in our reports frequently, over and over again. It is not a question for debate at all. The question for debate now is which are the best varieties and how to graft them, and whether they will live as long as those vines which are not grafted and questions of like nature; how much influence the grafting has on the root, whether it is best to graft them before you set them out, or whether you had better wait a year, but the question of resistance in grafting was settled at least four years ago by our Commission.

Mr. Hilgard.—I would suggest that Mr. Morse state such facts as he is in possession of.

Mr. Wetmore.—Mr. Morse is present, a gentleman who has been connected with the University for a long time, and especially connected with this Commission in making experiments. He has become very expert in discovering traces of phylloxera, and I would suggest to you gentlemen throughout the State, as the Commission is not considering that part of the work any further, to any great extent. I would suggest that when you want to know whether your vineyards are infected, you had better send for some person who can in a single day, by walking around, discover the traces, and show a person, who is unaccustomed to the disease, where the test is to be found and under what circumstances. Mr. Morse went up to the St. Helena vineyards with this object, and found two or three new places which were infested, which was very valuable for them to know, because they learned what they had to do in advance. He went to Santa Rosa and examined those vineyards, but found no pest there. The Commission has done its share in demonstrating in what sections of the State we know it to be, but we cannot afford to give anybody a bill of health. We do not know where it is not, we only know where it is. Mr. Morse, will you explain your investigation of these experiments of Dr. Bauer?

Mr. Morse.—Mr. Chairman, ladies and gentlemen. It will take but a few moments to narrate all in connection with the experiments, that I made during the summer. The vineyard in which the experiments were made was about three miles east of Napa situated upon the side hill and in a moderately good soil. It was only a single vine that I found that had been treated—a Zinfandel. It was about four years ago, and was treated when it was about a year and a half old, and then it was moved to the position in which we found it, and the point where the treatment was made. I have one of the packages here of the stuff it is treated with. It consists of only a half ounce of the mercury mixed with clay. That is carefully mixed with say a bucket full of loose soil, and then the soil is removed from around the vine at any depth that the investigator may see fit to remove it. In this instance it was done to the depth of about eight inches. This prepared soil is then put in close around the stem of the vine and then it is covered up again. The rootlets that are formed on the lower end of the cutting we cut off so that they were not more than six inches long. It was taken from a badly infected district and the vine itself was very badly affected and rotten. You could easily see the traces of the insect and the rotten spots upon the vine as you took it up. It had, in the meantime, about two years ago, formed quite a general supply of small rootlets, some of them three and four feet long, and the cane that it produced this year—there were only two on the vine—were very vigorous, and four or five feet long. In the removing of the vine they placed it on the edge of the old infected vineyard where the vines are now all destroyed. There is not a single vine around it, and just adjoining it is a vineyard only three or four years old now, the same variety, Zinfandel. This vine was placed between those two. It was about three feet from the edge of the old infected vineyard and about three from the newer vineyard, which at that time was just beginning to show signs of the phylloxera, and in places in the new vineyard there were dead vines. I dug around the root, following closely along the stem to see if any phylloxera remained on the stems and to find any traces

of where it had been. Of course we could find the rotten portions on the rootlets and on the old stems; further than this we could not find any traces of the insect working on the newly formed roots, and some of them that were traced out to a distance of four feet at the extremities were rather doubtful, but there is where the insect might possibly have attacked it although we were not positive about the matter. At the time I looked it over, I could not find a single insect and nothing but the rotten spots they had left at the time they were transplanted. There were one or two points connected with it which rather vitiate the experiments. In the first place it was planted between these two vines and which we are not certain was interlaced with the roots from the old infected vine, so possibly the insect may not have come from this, and if infected at all it must have come from the old stem that was sent out. The fact of not finding them on the old stem and upon the newer roots is certainly very encouraging, because upon vines adjoining it, vines of the same age, you could find the insect in abundance; upon this you could not. Upon one side you had a spot where the vine had entirely died, and upon the other you had the vines that were decayed and rapidly going down; upon this vine we found none of the insects and no traces except the old rotten spots. You will see from this that it is quite encouraging, but it is not absolute proof that it will kill the insect, because there may have been some other circumstance that prevented the spread from the old stem to the freshly formed rootlet. That is about all that is to be said of the experiment that was carried on in that place. There was only one vine and on that we found none of the insects.

A Delegate.—You say that this package you put into about a bucketful of earth?

Mr. Morse.—Yes, sir.

A Delegate.—What quantity would you put around each stem of that composition?

Mr. Morse.—This is supposed to be just enough for a single vine.

A Delegate.—It contains enough to mix with the bucketful of earth?

Mr. Morse.—If you want to go to the trouble to mix it thoroughly and spread it out wider around the vine all you have to do is to mix it with a larger amount of earth.

A Delegate.—That package contains a half an ounce of mercury?

Mr. Morse.—Yes, sir. The amount of clay does not make any difference, and if you have a large amount like that it is much easier to distribute in the soil around the vine.

Mr. McIntyre.—About how much would that cost to the acre?

Mr. Morse.—I have not made any close calculation but a rough estimate makes it about \$10 for the mercury, by using that amount around each vine.

Mr. Wetmore.—It has not been determined how much of that it would require to cover the whole ground.

Mr. Morse.—No, sir, that is just from the one experiment we made.

Professor Hilgard.—It is my recollection that Dr. Bauer said he had taken that as a quantity which would be sure to act, but he had not tested whether less would do it.

Mr. Morse.—He has taken larger amounts, and then successively down to this amount, but he has never taken a smaller amount than this.

Professor Hilgard.—I must say I should consider a quarter or a half of that would be quite enough for the small space around the vine. From my experience in the way the mercury spreads I should consider that as a great superfluity and I think this amount might be spread over a very much larger surface.

Mr. Wetmore.—Do you know whether any experiments have yet been made, to determine whether the influence of the mercurial vapor can be made to descend into the earth below the point where it is placed?

Mr. Morse.—I know of none.

Mr. Wetmore.—That is the weak point of all this supposed remedy, the phylloxera may be six feet under ground.

Mr. Hilgard.—As compared with bi-sulphide of Carbon, the mercury has the advantage that it does not decompose; it remains forever as far as we know, and the vapor steadily tends downward.

Mr. Wetmore.—Is the vapor heavy?

Professor Hilgard.—The vapor is very heavy; so much so that when mercury is

filled in a room the occupants are likely to be incommoded by it only if they stoop down, if they stoop low as the mirror makers are obliged to do. It tends constantly downward, and that is the intelligent part of this experiment. From Mr. Morse's statements, and I think he is under the same impression, it would look as if the vapor had flown downward along the root and had extended to the ends and killed the living insect at the end.

Mr. Wetmore.—I have been asked several times why we have not reported on this. We would have nothing more to report than what Mr. Morse has not reported. There has never yet been a vineyard cured or a vine cured without first digging it up and putting it back again. Until some such thing as that is done, in practical vine culture, there is nothing to report. But there is one bright idea I have seen in connection with this attempt to kill the phylloxera. The effort is to find a remedy which will be as nearly as possible permanent. The bi-sulphide of carbon is as perfect a remedy can be imagined, except that it is temporary only. After it has disappeared or goes from the soil the vine is again liable to attack, but the theory of this remedy is that if it is successful the vine is protected, perhaps not for all time, but at least for a long time. It is presumed that the mercury will volatilize; it is presumed it will disappear somewhere.

Professor Hilgard.—It will disappear downwards rather than upward.

Mr. Wetmore.—That is the point; what becomes of it? It is open to investigation and that is all you can say about it. The idea is worth studying and it looks to me as though Dr. Bauer has hit upon an idea which if thoroughly investigated and developed will produce something valuable for us, but until that time comes we have nothing to report further than, the watching, the experiments that are made.

Professor Hilgard.—I will state that Dr. Bauer himself has treated about 20 vines at the University, which are very badly infected and we will be able soon to see whether it kills any outside of the zone in which the phylloxera is situated.

Mr. Wetmore.—The great trouble in killing the phylloxera in the past has been to kill those that are near the surface. The bi-sulphide has killed those below easily enough; now this remedy combined with the bi-sulphide ought to make a good one by giving a surface treatment of this and then giving a deep treatment with the bi-sulphide. I will say, however, that while we are studying this, the government of France has not yet given up the search for new remedies. In France a great effort is now being made to scientifically destroy the winter egg. The winged form comes up and, as the result of one of its developments, leaves the winter egg above ground on the wood, or supposed to be there—I do not know that anybody has found one, but it is there theoretically. If you could destroy that winter egg you would kill out the whole colony, because those below would die out themselves unless they were regenerated. That is the general theory. I have recently received an official report, published in France, which seems to indicate that they have a method of covering the vine with a coating of material, the exact nature of which I do not recall, so that the egg is destroyed beneath the covering, but it would seem to be a very slow and expensive operation to varnish your vines all over.

Professor Hilgard.—I would suggest one point in that connection. The winter egg is in France the capital point; in California I do not think it is. The phylloxera with us simply goes to sleep as we have found in the University vineyard. In France it seems to die off from the root, and the root remains almost practically free from it on account of the penetration of the cold, but here we have found that colonies in mid-winter exist in greatest abundance; we do not find eggs it is true, but we find mothers full of eggs and ready to lay at the first knockings of Spring. Our mild climate makes the winter egg of very little importance, because the forms are ready to revive no matter what you do with the winter egg. I think in our country we must study to prevent the spread. There is not a time in the whole year when we cannot find living insects on the roots, at least at Berkeley.



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RECOGNITION.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.
 Proprietor S. F. MERCHANT. — Dear Sir: Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.
 Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural interest in the State, an exponent of their views and able advocate of their interests, and, moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished.
 Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandise who wish to call our attention to their goods, aid us and other Viticulturalists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.
 Be it further resolved that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.
 C. F. RIGGS, SECRETARY.

WINE MAKER AND CELLAR MAN.

A YOUNG MAN WHO HAS STUDIED IN A celebrated college for wine making and viticulture, and who has acquired his experience in the wine manipulation in prominent wine countries wants a position.
 J. C. MAZAL.
 Adolv at the MERCHANT Office.

IF NOT, WHY NOT?

The wine industry of California is now assuming such a prominent and leading position in California that it is the duty of every journal in the State to advocate measures for the increased consumption of our wines as against the use of bad spirits and deleterious beers. On all the railway trains connecting with San Francisco, we are accustomed to see vendors of papers and vendors of oranges, nuts and ginger pops. But where is the wine vendor? It is possible for a traveler to obtain cigars, fruit or frothy effervescing drinks that do internal injury. But it is not possible to obtain on any of the cars even a glass or a pint bottle of pure California wine. Almost the same remark can be applied to the steamers trading on the Pacific coast, where, if a passenger does get a bottle of our wine, he has to pay for it from a dollar to a dollar and a-half. This is a matter that should be looked into by all California wine-makers and wine-dealers. Here is certainly a good field open for the sale of good pure wines, and it would probably lead to further enquiries from Eastern and Foreign travelers,

CALIFORNIA WINES.

An Increased Export Trade of 230,000 Gallons During the First Quarter of 1885.

Full Statistics and Comparisons of Shipments by Rail and by Sea.

In the last issue of the MERCHANT were published the quarterly returns of California wine shipments by sea, which showed a reduction of 67,072 gallons as compared with similar shipments during the same period in 1884. We then stated that this result might be altered on receipt of the shipments by rail which had not come to hand. The statistics of the shipments by rail to Eastern points, from all the distributing centers, have since been received and we are enabled to publish complete returns for the first three months of this year with the comparative tabulated statements, formerly published by the Chronicle, for 1884. No such detailed work relative to the California wine industry has ever before been attempted and the facts gleaned are both interesting and instructive. We present the first tables. Thus:

Wine Shipments By Rail.

JANUARY 1885.			
FROM.	C. P. R. R. gallons.	S. P. R. R. gallons.	Total No. of gallons.
San Francisco.....	365	105,571	105,936
Los Angeles.....	273	24,884	25,157
Sacramento.....	425	6,015	6,440
Totals.....	1,063	136,480	137,543

FEBRUARY 1885.			
FROM.	C. P. R. R. gallons.	S. P. R. R. gallons.	Total No. of gallons.
San Francisco.....	2,092	151,935	154,027
Los Angeles.....	1,019	36,036	37,055
Sacramento.....	767	16,154	16,921
Stockton.....	730	175	905
San Jose.....	101	179	280
Marysville.....	205	.....	205
Totals.....	4,914	204,479	209,393

MARCH 1885.			
FROM.	C. P. R. R. gallons.	S. P. R. R. gallons.	Total No. of gallons.
San Francisco.....	26,214	276,949	303,163
Los Angeles.....	3,990	84,757	88,747
Sacramento.....	3,390	32,317	35,707
San Jose.....	440	5,480	5,920
Stockton.....	600	185	845
Marysville.....	210	.....	210
Oakland.....	12	13	25
Totals.....	34,916	399,701	434,617

A comparison of the above figures shows a steady growth in the wine trade to Eastern points, from 137,543 gallons in January to 209,393 gallons in February, and 434,617 gallons in March or an increase of nearly three hundred per cent between the shipments of the first and last months of the first quarter of this year. We next present a summary of the above tables in a more concise form, giving also a comparison of the overland shipments for the same period in 1884. Thus:

Overland Shipments.

FIRST QUARTER 1885.		Gallons.
From—		
San Francisco.....	503,126	
Los Angeles.....	150,969	
Sacramento.....	59,088	
San Jose.....	6,200	
Stockton.....	1,750	
Marysville.....	415	
Oakland.....	25	
First quarter of 1884.....	781,553	
Increase in first quarter of 1885.....	471,840	

These figures show that San Francisco is the main distributing center for California wines, shipping nearly four times as much as Los Angeles and nearly ten times as

much as Sacramento. Further we find that the total overland shipments for the three months were 781,553 gallons as against 471,840 gallons during the same period in 1884, or a gain of 309,713 gallons in favor of the present year. To complete the returns and comparisons it is necessary to give the shipments by sea for the same periods. Thus:

By Sea and Rail.

TOTAL SHIPMENTS FOR THE FIRST QUARTERS OF 1884 AND 1885.		
	1884. Gallons.	1885. Gallons.
By Rail.....	471,840	781,553
By Panama Steamers.....	356,255	289,183
By Other Routes.....	26,499	13,713
Totals.....	854,594	1,084,449

Total increase for first quarter..... 229,855

This table shows a decrease, for the first quarter of 1885, in the shipments by the Panama line of steamers of 67,072 gallons; a decrease in our wine export trade by other routes of 12,786 gallons and an increase in overland shipments of 309,713 gallons—or a total increase of 229,855 gallons in the export trade of California wines for the first quarter of the present year as against the same period in 1884. The average monthly shipments during last year were as follows:

	Gallons.
By Rail.....	177,183
By Panama Steamers.....	89,114
By Other Routes.....	8,833

For the first quarter of the present year the average monthly shipments stand thus:

	Gallons.
By Rail.....	260,517
By Panama Steamers.....	96,394
By Other Routes.....	4,571

This exhibit shows an average monthly increase in overland shipments of 83,334 gallons; an average monthly increase in the Panama route of shipments of 7,280 gallons; and an average monthly decrease in the shipments by other routes of 4,262 gallons each month. The following conclusions can be drawn from the facts and figures that we publish: That the wine-makers of California are anxious to avail themselves of quick trans-continental transportation in preference to the Panama and other sea routes. If further reductions were made in overland freights the monthly and quarterly returns would show a still larger proportion of overland shipments. This remark is applicable not only to California wines but to all California produce which seeks a market in the East. Cheap freights mean increased profitable business to both producers and transportation companies. This fact has been fully proven in other parts of the world.

Averaging our wine export trade for the remainder of this year on the same basis as for the first quarter, we will have an aggregate of 4,337,796 gallons for 1885 as against 3,501,774 gallons shipped from California in 1884, or an increased output of 836,022 gallons. These facts are encouraging, yet, in comparison with the increased vintage of last year, it will still leave several million gallons surplus on the hands of wine-makers and merchants. The consumption of wine in this State is increasing proportionately, still every opportunity must be utilized for availing ourselves of all possible markets and pushing our wine business into every consuming channel in order to avoid any disaster to wine-makers through the too rapid and increased production that seems to threaten us for the next year or two, while we are educating the people to drink pure wines in preference to deleterious spirits and bad beers. The ultimate successful result is fully assured; in the meantime, however, it behooves all who are en-

gaged in this great and growing industry to exercise their utmost care and judgment by making preparations for holding and storing their wines that they may reap the fruits of their own labors.

RAISIN SHIPMENTS.

Having received the returns of the raisin shipments by rail to Eastern points for the first three months of this year the MERCHANT is in a position to give the following statistics and deductions therefrom. The figures published below are both interesting and instructive. Compared with the shipments for November and December of last year, when the new crop was ready for disposal, they naturally and reasonably show a considerable decrease. Thus: In November last the raisins sent by rail to Eastern points aggregated 911,420 pounds, and in December the total was 1,024,130 pounds. In January of this year there was a drop to 416,800 pounds, which decreased still further in February and March, the shipments for those months showing 157,010 and 162,860 pounds respectively. Yet in this year's decrease there is cause for congratulation because it shows that the demand in the East for California raisins is such that the new season's crop can be readily placed on the markets. Future monthly returns will probably give a still greater decline in quantity until the end of the year.

Further comparisons show that Los Angeles still maintains the lead as a point of shipment for California raisins to the East. In November and December of last year the shipments from the main points of distribution were as follows:

	Pounds
Los Angeles.....	1,048,340
San Francisco.....	764,690
Sacramento.....	636,730
Total.....	2,449,760

This gave Los Angeles an increase of 283,650 pounds over San Francisco and 411,610 pounds over Sacramento's shipments. Continuing the comparisons still further, to the end of the first quarter of 1885, we find that Los Angeles still maintains its leading position as a raisin distributing center, the figures for the three months standing thus:

	Pounds.
Los Angeles.....	430,960
San Francisco.....	256,380
Sacramento.....	49,330
Total.....	736,670

These figures are conclusive proof that the greater proportion of the raisin industry of California lies in the Southern counties. Our statistics and compilations we present as follows. Thus:

JANUARY 1885.			
FROM.	C. P. R. R. pounds.	S. P. R. R. pounds.	Total No. pounds.
Los Angeles.....	1,720	246,040	247,760
San Francisco.....	104,770	63,140	167,910
Sacramento.....	.....	1,130	1,130
Total.....	.....	.....	416,800

FEBRUARY 1885.			
San Francisco.....	28,100	29,710	57,810
Los Angeles.....	.....	51,000	51,000
Sacramento.....	48,200	.....	48,200
Total.....	.....	.....	157,010

MARCH 1885.			
Los Angeles.....	.....	132,200	132,200
San Francisco.....	25,170	5,490	30,660
Total.....	.....	.....	162,860

Summary.			
Month.	Los Angeles.	San Francisco.	Sacramento.
Jan....	247,760	167,910	1,130
Feb....	51,000	57,810	48,200
March.	132,200	30,660	.....
Totals.	430,960	256,380	49,330

MR. HUSMANN'S APOLOGY.

The MERCHANT is in receipt of three communications from Mr. George Husmann, of Napa. In the first he objects to the heading that was given to his letter that appeared in our last issue, as being an apology. He states that the "few remarks were sent as a correction." We were under the impression that Mr. Husmann intended to apologize to the French Nation, and its representatives in the State of California. We regret that he did not, because, in our opinion, he should have done so. However, as a "free born citizen," he "is entitled to his opinion," which we have given in previous issues. Mr. Husmann "corrects" himself but does not "apologize" to the French.

In his second letter, Mr. Husmann requests us to publish a lengthy effusion that he wrote to the St. Helena Star and which appeared in that paper. But there is evidently some misconception, as Mr. Husmann writes, "will you also do me the justice to publish the enclosed reply from the St. Helena Star?" The Star made no reply. On the contrary, it previously plainly indicated editorially what were its sentiments on Mr. Husmann's original communication. Being an "old editor" himself, Mr. Husmann should know the difference between a "letter to" a paper, and a "reply from" a paper. Further, Mr. Husmann in his lengthy letter branches off from the only point that had been under discussion in the MERCHANT, to attack the Chief Executive Officer of the State Viticultural Commission. Still further he makes two erroneous statements; one, that Mr. H. A. Pellet is a Frenchman, whereas he is a Swiss, and was born in Switzerland—the other, that Mr. Pellet said that "the French do not desire such an exception from the rule. He, at least, thought that I was right, and that we would lose more information than we would gain by following such a course," meaning thereby, that the French did not desire any discussion in their own language at the San Jose District Convention. We have the authority of Mr. Pellet himself for stating that he made no such statement. He did hold a brief conversation with Mr. Husmann a few weeks ago, but he certainly said nothing that could be turned into such a construction.

The third communication is of such a tone, that we take no further notice of it.

As this will end all controversy on the subject in the MERCHANT, we conclude by telling Mr. Husmann—to use his own words—that he cannot "bulldoze" this paper, as we think "eternal vigilance is the price of liberty," although we may, in this instance, differ not from the "powers that be," but perhaps from the power that would be, and who may be "inclined to be arbitrary, overbearing and dictatorial."

WINES AND BRANDIES.

We take pleasure in drawing the attention of the readers of the MERCHANT to the letter, in this issue, of Mr. L. J. Rose, of San Gabriel. The opinions and suggestions of Mr. Rose are entitled to the deepest consideration by all wine-makers, as his efforts to support the viticulturists are unceasing. His main object in view is always to attain one result, and that is the success of the viticultural industry of California. His experience has been gained not only in California, but also in the East and European countries, consequently his expressions are worthy of grave attention. We trust to receive further communications from Mr. Rose.

THE NEXT VITICULTURAL DISTRICT CONVENTION.

It has been decided that the next Viticultural District Convention shall be held at San Jose, commencing on 27th inst. The official notice of the Convention is published elsewhere. The call has been made by the Commissioner for the San Francisco District, which includes the counties of San Francisco, San Mateo, Alameda, Santa Clara, Monterey and San Benito. As this district includes the merchants, dealers, jobbers and wine-makers who live in the city of San Francisco, it is to be hoped that they will make an effort to attend the Convention. This is the more necessary on account of the discussions to take place relating to marketing wines and increasing the facilities for maturing them. It is further necessary that advice should be given as to handling the forthcoming crops, a most important consideration to all who are interested in the industry. It is to be hoped that samples of wines from all parts of the State will be forwarded by all our wine-makers. Professor Hilgard and Professor Rising will be present to address the Convention, and Mr. F. W. Morae will report upon the advances made by the phylloxera. The experiment of conducting discussions in French will be commenced on the evening of the first day's session. Papers will be read in the French language which will be subsequently translated and published by the MERCHANT. Mr. H. A. Pellet of St. Helena and Mr. Adolphe Flamant of Napa will attend and discuss with the numerous French viticulturists of Santa Clara and other counties, who may be present, on topics of common interest and the greatest importance to all.

PHYLLOXERA EXPERIMENTS.

Some interesting facts have already been ascertained by the State Viticultural Commission through their experiments with Dr. Bauer's quicksilver remedy for phylloxera. As formerly stated by the MERCHANT the experiments are being conducted at Sonoma under the direction of Mr. F. W. Morse who makes regular monthly visits to the experimental field. Dr. Bauer claims that from one half to an ounce of quicksilver will be a sufficient quantity to protect a small vine from the ravages of the phylloxera. To make the test more complete and thorough the State Viticultural Commission decided to apply, to a certain part of the plot treated, four ounces of quicksilver to each vine. Up to the present time there has been no diminution in the number of the insects and the presence of the quicksilver has not interfered with their work of destruction. It is expected, however, that the heat of Summer will develop the powers of the mercury and affect the insects, the increased warmth causing the emanation of the fumes or gases from the quicksilver. How far such fumes, if created by heat, will descend into the cold ground will be another important point to ascertain as they may not descend sufficiently deep to thoroughly eradicate the disease. So far, the experiments show that in cool weather the quicksilver has had no immediate effect and has done no harm to the phylloxera. The remedy is theoretically correct and it is to be hoped that further developments will prove that it is also practically correct.

Mr. J. Turel, of the City Store of Lemoine Turel & Co., San Jose, will increase his facilities for wine-making and storage in time for the coming vintage. The wine cellar, which is in the store, is under the management of Captain J. Chamon de St. Hubert.

EFFECTS OF THE FROST.

A gentleman who has lived in Napa county for five and twenty years informs us that our estimate of the reduced vintage in that county from the effects of the frost is perfectly correct. He has sold all his wine and consequently is able to give an unbiassed opinion. He is thoroughly acquainted with the whole county and bases his calculations from a careful inspection of the various vineyards since the frost. Whereas Napa county produced, last year, almost five million gallons of wine, he is certain that the coming vintage will not reach half that amount and is doubtful if it will be even two million gallons. It is probable that the reduction in Sonoma county will be proportionately as large. The difficulty in obtaining accurate information often arises through the false policy of the residents of a district in disclaiming that any damage can be done to their particular section through climatic influences. We again advise wine-makers to hold their vines as the vintage of 1885 will not exceed that of 1884 and may even be considerably lessened, owing to the ravages of grasshoppers and locusts, notwithstanding the increase in the number of bearing vines.

TRAINING ON TRELLISES.

Mr. H. A. Pellet of St. Helena has kindly informed the MERCHANT of the result of his experiments in training vines on trellises. He tried a small lot, eighty vines, of Rieslings grafted on Isabella, seven years from the graft. When picked the eighty vines produced eighty-five boxes of grapes, each of fifty pounds weight or 4,250 pounds in all. The result is just double the produce of similar vines that were staked. From one section of two feet in length he gathered no less than eighteen pounds of grapes. The vines are planted eight feet apart, two rows of wire being stretched from stake to stake and an ordinary batten being nailed from top to top of the stakes. The vines are trained along the wires on each side of the stake and thus obtain more air and room for development. The only increased expenditure is the actual cost of the wire, the battens and the labor in placing them. The result showed that the profit was proportionately far in excess of the returns from staked vines. Mr. Pellet intends to extend his operations in this direction.

THE SUGAR MARKET.

Since our last issue the American Sugar Refinery has advanced its prices half a cent a pound on all grades of sugars. This is in exact accordance with the opinion expressed by the MERCHANT on the 8th inst., thus: "It is extremely probable that American Refinery prices will soon rise, possibly even above those of their antagonist." Their prices are now higher than the California Refinery's. As the American, in their former reduction, did not reduce the price of yellows, they are now half a cent higher on those grades and a quarter of a cent higher on whites than the California Refinery, which has not raised its rates, but at present is content to sell for less than its rival as it was previously equally content and able to sell at a higher price.

Mr. F. Pohndorff Jr. has planted at his vineyard at Mission San Jose, 20 acres in rooted Californicas, from nursery, for grafting next season. He has not had a single failure, following the example of Mr. Montelegre who, last year, met with equal success with his Californicas.

A BENEFIT TO CALIFORNIA.

Mr. Charles B. Turrill, of the Southern Pacific Railroad, who is in charge of the exhibit from California at the New Orleans Exposition writes to the Viticultural Commission that he has received the pamphlets on viticulture and viniculture prepared by the Commission for distribution to the public, in accordance with his request previously received. He has made arrangements for distributing them with due regard to obtaining the best advantage possible for this State at New Orleans, and he will reserve a certain number to be used in like manner by him on behalf of the State at the Louisville Exposition to be held this fall.

Mr. Turrill has been persistent in his efforts to present in the most forcible light possible, the best opinions concerning the industries of California, and is deserving of grateful remembrance on the part of the people of this State. He has written, as the members of the press throughout the State well know, on many occasions, for all possible information that will be of advantage to our people, and the success of his labors has been so signal and important, that when he returns, we may promise, at least, that the vine growers will see that his spirit has not been forgotten.

NEW WINERIES.

The State of California is to be congratulated upon the erection of a number of new wineries, and the enlargement of others already established in different localities which will be completed in time for storing this year's vintage. At Livermore, Mr. C. Aguilon is enlarging his last year's plant, and Messrs. Chauche and Bacqueras have already built a new winery. Mr. J. P. Smith of Olivina Vineyard, near Livermore, is also building a winery. At Irvington, near Mission San Jose, Alameda County, Mr. Juan Gallejos has almost finished the erection of a very large cellar, which will be one of the most complete in the State in its machinery, fittings and appliances, every detail having been carefully planned and arranged in all respects. Mr. R. J. Northam of Anaheim and Dr. J. D. B. Stillman of Lugonia have both visited San Francisco to prepare their plans and perfect arrangements for the construction of cellars. The MERCHANT will be glad to learn of further improvements, in this direction, that are being made in other parts of the State which will give increased facilities for the manufacture and storage of wines.

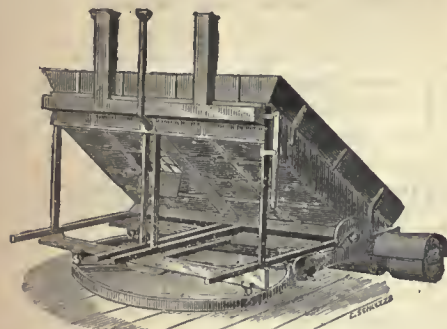
GRAFTING CALIFORNICAS.

Mr. John F. Packard of Pomona, Los Angeles county, writes to the State Viticultural Commission that he grafted 100,000 Californicas this Spring in his vineyard. His men, who are at work suckering in the vineyard, report that they have not yet seen one vine which is not starting from the graft. His opinion is that he will secure over ninety per cent—at least eighty-five per cent are now twelve inches high.

WINE STATISTICS.

It is amusing to note the avidity with which the city papers publish the New York telegraphic monthly statistics of wines received from San Francisco by steamer, though they are, and must necessarily be, a week or two later than the same information that is compiled and published by the MERCHANT.

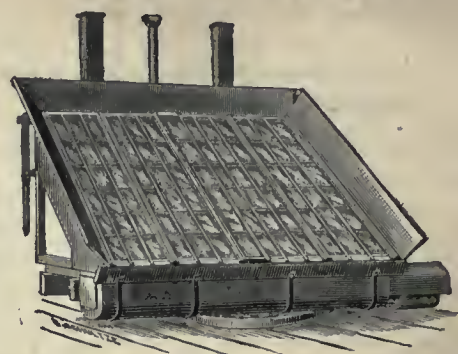
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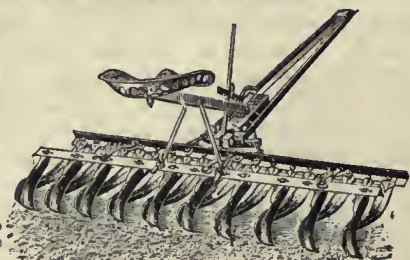
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DAILY CALL, OCT. 18, 1883.

THE WINE PRESS AND THE CELLAR.—A manual for the Wine Maker and the Cellar Man, is the title of a work just published, from the pen of E. H. Rixford. The work, the author says in the preface, is the result of research by himself, chiefly for his own benefit, and in going over the literature of the subject of wine making, he failed to find a work in the English language which is adequate to the needs of the practical wine maker. The book is intended to supply the deficiency. Elaborate statistics of the California wine product are given. Besides the preface, the work contains twenty chapters, each embracing a distinct subject relating to the manufacture of the various wines and putting it up for market; defects and diseases of the liquor; mixing wines; analysis, etc., with forty-two illustrations in all. The processes begin with the gathering of the grape, following each step and the processes attending it, in the manufacture; treating of the various qualities and the causes upon which these various differences depend. The book contains 240 pages, and is thoroughly indexed.

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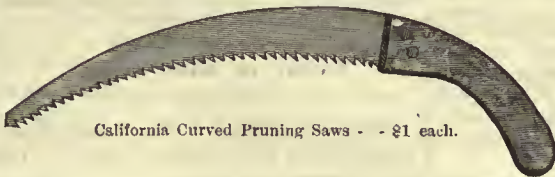
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PUBLIC WELFARE.

Hon. J. T. Doyle on the Wine Question.

[From the Report of the Third Annual Viticultural Convention.]

Hon. J. T. Doyle.—Mr. Chairman and gentlemen, I saw by the newspapers and learned from Mr. Wetmore that I was expected to make an address upon this subject but I do not consider that this meeting needs any such thing as an address upon these subjects and I am not prepared to make one. I can scarcely hope to contribute anything of value to the discussion of this matter. I have in common with most people, who read considerably, learned that the experience of the world is in favor of the cultivation of the vine as a means of promoting temperance. I recognize of course, as we all do, the evils of intemperance from the use of spirits, not only in the individual who so abuses himself, but also the injury inflicted on the community by such abuses, the multitude of crime it leads to, and the amount of domestic unhappiness it involves. On the evils of intemperance there is no need to enlarge. Those gentlemen who take the public stand to enlarge upon the evils of intemperance, if actuated by principle, and by calling attention to it, do a great deal of good, but I think they miss their mark when they undertake the absolute prohibition of all drinks that may lead to intoxication when carried to excess. I think the history of the world is that it is the use of ardent spirits that leads to this and not wine. I believe the experience is that in the south of Europe, where the people use wine as a daily beverage, they are more temperate by far than those of Northern nations who have not the facilities for the production of wine, and are driven to seek for stimulants in whisky or some other alcoholic stimulants. The necessity for stimulants seems to be almost inherent in the human being. People will drink something or other. I had a case, a very notable one, I do not know whether it may properly come in here, but I will tell you the story. It was the case of a young man of this city, whose name I will not mention, who used to attend the sessions of the Legislature in California, with the idea of becoming a reporter. He had an ambition to qualify himself for that honorable calling, and he set out by attending the sessions of the Legislature and by reporting their proceedings, corresponding, etc. That winter I had occasion several times to attend the Legislature on official business, and not liking the water of Sacramento, which was a little off color to say the least—it was near the flood—I sent a young friend in the city to buy me a three gallon demijohn and told him to ask permission of the gentleman of whom he should buy it to rinse it out and then fill the bottle with water, for which I said he would not charge him anything. He did so and sent it to me at Sacramento and I had it in my closet there. The young gentleman of whom I am speaking had somewhat departed from the habit of reporters and had become addicted to the use of ardent spirits. If there is any requisite in the calling of these gentlemen, whom I see on either hand, it is absolute sobriety, and this young gentleman it seems, had partaken of these stimulants until his palate and appetite had become vitiated. I met this young fellow one day, as I was coming out of the Capitol, and I said to him, as we walked along, "If you will come with me I will give you a drink of something you cannot very well get in Sacramento." The prospect enchanted him. I walked to my room and pulled out this demijohn. The sight of the demijohn seemed to confirm him in the impression of the quality of what I was going to give him to drink and there was a pleasant smile around his features. I poured out a tumbler full for him and another for myself. It was as clear as crystal. He took it up, looked at it critically and passed it under his nose, evidently puzzled with the lack of bouquet. I saw he was mystified and said to him, "It is entirely odorless and told him to drink it down. It would not do him a bit of harm." He took a good drink of it, he drank it from the bottom to the top and set down the glass and said "what is it, I have tasted everything except Kirsch—is it

Kirsch?" I said "No, it is not Kirsch." Growing more puzzled he said "What is it?" I said "It is simply Spring Valley water." [Immense laughter.]

That probably was the effect of taking too much whisky. If he had habituated his appetite to the use of wine I am quite satisfied that it never could have reached that state of depravity. I think it is the experience of the world, as I know it is my personal experience, where I have had men who drank wine at their meals as a regular beverage, and I never found one of them intoxicated, that those who drink wine as a beverage are not an intoxicated class. The men on my place are Italians, the foreman is an Italian and of course he selects all the workmen of his own nationality, and they all drink wine as a common beverage. I could take you down there and show you men whose complexions are a mixture of the rays of the sun, as handsome men as I ever saw, not excepting my friend Dr. Stillman here, who is a very handsome man (Laughter). Everyone of them takes for his breakfast, dinner and supper his glass of wine. They do not use coffee or tea, they use wine. I have heard gentlemen relate, who have traveled, I do not want to give umbrage to any nationality or any national pride—but I have heard of a prominent city within the British Empire, that arriving in the city on Sunday morning they found it exceedingly difficult to obtain any kind of accommodation except that they could book themselves at the hotel. It was a very religious community and the cause of christianity and temperance warmly advocated, but after they had found the inside track it was not so very difficult to get refreshments, when they found a number of gentlemen filling themselves with whisky in the back tap room and drinking themselves into a condition which before the close of the day bordered very much on the state of intoxication. You do not find this among the wine drinking people. I am told that since the close of the German war intoxication has increased in France by the introduction of some drinks stronger than wine, but among the rural districts of France as in Spain and Italy, intoxication is rarely known. The remedy therefore for the abuse of intoxicating liquors is not, in my opinion, in making a crusade against anything that will intoxicate, but to divert the appetite into as harmless a channel as possible. You cannot provide milk for the millions and they would not drink it if you did, and they will drink something stronger than water. Give them wine, and that is what California will do for the United States. I think the wine industry of this State should be made the means of regenerating North America from the effects of intemperance, which is such a prominent evil. Let the people drink that which will not do them harm. This is all I have to say on the temperance question—and I think it is the same as anyone will say who has been for 50 or 60 years in the community unless he has been rendered nearly fanatical.

I would like to add something on legislation, as we have here two Regents of the University. I would ask these Regents to impress on their brethren in the Board of Regents the requisites of this industry which has gathered us together. The University of California derives its original endowment from an Act of Congress which was passed for the purpose of creating Agricultural Colleges in various States. Now it does not need much to see that one of the principal branches of agriculture in the State of California is to be the cultivation of wine. Cereals have been heretofore one of the largest productions. But history goes to show that what, with Indian and Egyptian wheat and with a production as far worth in our own country as Manitoba, through which the European markets are going to be supplied, the growth of California in cereals is going to take a secondary position of itself. The University is primarily an Agricultural College. This is the first duty for which Congress made the appropriation. Secondary to it, it says it shall not be prohibited in giving a course of instruction in other learnings, but the foundation of the whole thing, the field of the University, is laid upon a college of agriculture. It is for that it received its endowment. Colleges of letters and sciences were all organized simultaneously although

in the State Act, which organized the University, prominence was given to agriculture and it was directed that an agricultural college should be organized first. Yet it was merely put legally first and practically they were all organized simultaneously. Now I think if the Regents will look through the records of their own proceedings they will find that an endowment has been given them by Congress for the establishment of a college of agriculture, yet probably nine dollars out of every ten has been spent for other branches of education than agriculture. They have taught the students Latin and Greek, some foreign languages, mathematics etc. I remember very well when I was one of the members of the Board, the College of Agriculture always had its report, but the result of it was that when the College of Agriculture was called upon to stand up it stood upon two legs—we had but one pupil. That is not evidence that the College of Agriculture is not a necessity to the people of the State, but more so that the Regents of the University have never found out the way of imparting this instruction so as to benefit the people of the State. I don't see why Mr. West could not go to the College of Agriculture and get the benefit of the instruction they give in the University. We all might be students there. We cannot at our time of life begin going to school, and I have been myself an advocate of education by some system by which the College of Agriculture can be brought to the people in their own localities. When going into the Board I merely ask those Regents who are here to impress their associates with the importance of that branch and to claim of the Regents, for it, a more thorough recognition than it has enjoyed.

I have said more than I intended for I feel that there has been a great deal more prominence given to me than I deserve; but I have learned something. I think this Convention has done a great deal of good, and for a large share of that good I think we are indebted to a gentleman, whose name I have not heard in the votes of thanks and resolutions that have been passing, and to whom our thanks are undoubtedly due. We all join heartily in thanking Mr. Pohndorf and all the gentlemen who have assisted in any way for the good work they have done, but I think there is a gentleman to whom we are indebted and the industry of the State is indebted, and I think it is due to him, and to ourselves more than to him, that we should take notice of the services of Mr. Chas. A. Wetmore. I hope you will express either by your applause or in any other manner, the very hearty thanks that the viticulturists of this State feel in the earnest and continued efforts of Mr. Wetmore in the interest of viticulture in this State.

Tartar in Wine Vessels.

Respecting tartar on the walls of old wine-vessels, Mr. Mancini writes in the paper *Settimana* as follows:

When wine ferments, (gira or subbolla) an occurrence which happens to four-fifths of Italian wine cellars, it is difficult to persuade people of the cause of it. The belief that the crust of tartar on the walls of a vat or cask is favorable to the wine put into the same, is too deeply rooted. But sometimes I succeed in proving the contrary. I have scraped off some tartar and shown the people that under its brilliant crystals there, they can see, and even smell putrid, nauseous dregs, which, in certain cases, were full of microscopic worms. This is the only way to convert the prejudiced ones.

Now, certainly, a wine whose re-fermentation is caused by that substance is, if not decomposing altogether, a wine of very poor quality. The remarks of Mr. Mancini explained the matter so fully, that it is useless to add a line. Young wines may be benefited by the tartar they draw from the crystals on the inner part of the cask, but the addition of fetid and rancid elements that adhere to the crystals is what endangers the same wines.

CULTURE OF THE VINE.

Opinion of Hon. Horace Davis.

[From the Report of the Third Annual Viticultural Convention.]

Hon. Horace Davis.—I did not come here this afternoon to speak though I could hardly use the customary excuse that I am thoroughly unprepared, for I am somewhat familiar with the subject but still I came here to excuse myself, for I thought I was going to be called upon to speak this evening and I should be absent, so Mr. Wetmore asked me if I would not speak now and I replied that I would say what I could.

The subject of the culture of the vine has always been one of great interest to me since it was first called to my attention, especially by Mr. Wetmore, at the time I was in Washington some six or seven years ago. He called my attention to the increasing excellence of your products and surprised me by showing what the promise was for the future. You all know—or at least I do not know that I have a right to assume that—many of you know that I am intimately connected with a kindred agricultural pursuit; I am a flour miller and directly connected with the other great staple, wheat, of the State and it has always been a subject of great regret to me to see our land steadily depleted and the richness of the soil wasted away by this constant culture of wheat which brought back so little to us where the value of the product when it reached England was so largely composed of the freight that we had to pay on it. I have always felt that we were giving away the virgin richness of our soil to give cheap wheat to England. I looked with great interest to see what diversified agricultural pursuit was possible to this State, and when I first came to notice the possibility of viticulture here, then I realized that wheat must give way to the vine, and that the future of California lay in my judgment in the culture of the grape and the production of wine. I felt years ago that the time was rapidly coming when the value of our viticultural product would largely exceed that of the cereals, and I hope that the day may be nearly at hand. The prosperity of the State lies as you know mainly, as I said before, in the diversity of pursuits. It is not in the huge ranges, but lies in the cutting of them up into small holdings, in making every acre of ground give all that it can be made to give, yield all that it can be made to yield. There is where the prosperity of the country lies, filling it with a population which bestows their labor on small areas of ground and getting back large returns. Then these again support others who are dependent on them. This is what is going on in this State, through the means of viticulture largely, the cutting up of these large holdings and filling up the lands with vine which require more labor, more money, more capital; supporting more population and producing more dollars to the acre than anything we have had heretofore. Now seems to me, and it is very plain, that from the standpoint of political economy there can be no question but what the prosperity of the country is intimately associated with this pursuit of yours. Now to those who object that on a moral ground the success of viticulture is inconsistent with the moral welfare of the community it seems to me that people make a great mistake. In the first place, if I may draw a comparison with other sections and countries, I see no reason why, because a portion of the viticultural production is devoted to the distillation of ardent spirits, why the cultivation of the grape should be considered immoral any more than the cultivation of the apple. There is certainly a large percentage of wine that is no more intoxicating than hard cider and our friends in Maine are scrupulous in excluding from their prohibition clause, that they have introduced into their Constitution, the manufacture of cider. If the manufacture of cider is proper in Maine according to their Constitution, I do not see why the manufacture of wine is prohibited according to the standard. But that is not the way I care to look at it. I do not care whether the people in Maine say that it is proper to manufacture cider or not, or manufacture wine or not. Let us take it as its absolute standard. All over the world, as long as there has been a world, the people have

sought more or less for stimulants, and they have found stimulants of all kinds. You see it as plainly in the tea party as you do in the saloon. Why is it people love tea and coffee? Because they get from it a certain amount of stimulant. It is not necessary to stamp out human nature, but we must take human nature as it is and make the best we can of it. Now it is much better to give that stimulant to human nature in a form that is reasonable and prudent, and kindly to his physical wants. My theory of this would be that it is better to give people their stimulants in a form which is moderate, which is prudent, which can be indulged with safety. As the distinguished gentleman said, who spoke last, the danger lies not in the consumption of wine but in the consumption of ardent spirits. The saloon, the place where men stand up to treat and invite one another to drink, that is the dangerous element. If you go to Europe you will find there, in France and in Germany that that element in society is wanting. That is an American element. Nobody stands up and offers to treat the crowd in London or in Paris or in Germany. That is an American perversion of human nature, a perversion of hospitality, a perversion of appetite, and I believe that if the drinking of ardent spirits could be made to give way to a milder, gentler, and more healthful form of stimulant, a taste would be created which would be thoroughly adverse to the use of ardent spirits. I do not believe a wine drinking people will ever be lovers of ardent spirits. In proof of this I will call for the testimony of all those gentlemen present who have traveled upon the continent of Europe—who have traveled in foreign countries at all—to say whether the facts do not bear me out. Now there is a great deal more drinking of wine in Paris than there would be here, for the water in Paris is very bad, and no one likes to drink the water clear, so many there drink wine who perhaps, here, would drink water. It is somewhat the same in any European country. The water here is better than it is there. But in spite of this increased consumption of wine it is almost impossible to see a case of drunkenness on the streets of the city of Paris. I was there last summer on their grand day, which was equivalent to the Fourth of July, commemorating the fall of the Bastille, the 14th of July. The streets were crowded with a country population that had come into Paris to enjoy this 14th of July. Yet I saw no drunkenness, I saw no intoxicated people, I saw no misbehavior, I saw no quarrelsome conduct, such as comes from the use of ardent spirits, and yet I know that those people drank wine as freely as our people would milk. I have as great a dislike to drunkenness, to intemperance—I have as strong a desire to curb the misuse of that which is the greatest source of crime and misery and poverty and wretchedness in our community as any one. I recognize all these melancholy facts but I believe that not only the use of ardent spirits is not increased by the use of light wines, but I believe it is actually diminished by it. I do not know that I would go so far as my friend here on my left (Mr. Wetmore) does, as to say that the use of wine is one of the most healthful and beneficial forms of human food, but I certainly say that for the human race, as long as they are what they are, and as long as they will have stimulants, we had better consider what they are made of and give it to them in the form that is least injurious. And in view of that I believe that the use of light wine is actually conducive, among men constituted as they are constituted, to temperance rather than to intemperance in the community.

Gentlemen, I know these remarks are crude and unsatisfactory, and I am only sorry that I have not had the opportunity to prepare myself so as to have spoken to you more intelligently, but I am glad to be able to come here and give my testimony to the interest you represent, and to pay my respects to you individually. [Applause.]

Some two year old vines sent from Santa Clara county to the State Viticultural Commission for examination were found to have been attacked by borers. The effect is the discoloration of the vine which turns black and extends up and down the stalk. The wood is next affected and the vine withers and dies.

REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and San Francisco, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country.

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the Bermal Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

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IN SANTA CLARA VALLEY,

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T. H. CORDELL & CO.,

25 North First St. } & { 873 1/2 Market St. San Jose. } { San Francisco.

\$22,000. 80 ACRES IN THIRD YEAR. OVER 65,000 vines of best varieties. Staked. A very fine property at a bargain.

\$3,000. 10 ACRES IN FOURTH YEAR. Near Los Gatos. Fine varieties, beautiful view and a good place.

\$10,000. 40 ACRES ON NORTH SIDE STEVENS Creek Road. Excellent land and fine varieties. Set last Winter.

\$7,200. 36 ACRES ON MAIN ROAD IN SECOND year. Splendid land. Good neighborhood.

We have a number of places with Vines and Fruit Trees for sale. Also, Orchards and Orchard Lands.

Call at Office or write for full particulars. Respect'ly

T. H. CORDELL & CO.,

Winery For Sale.

— THE —

BERMEL WINERY,

And Three Acres of Land,

SITUATED CORNER WEST AND GRANT STS.,

Healdsburg, Sonoma Co., Cal.

On Line of S. F. & N. P. R. R.

Cellar under ground—capacity 40,000 gallons—capable of being enlarged to any capacity at small cost. Outfit complete to carry on the business. Dwelling and outhouse in good repair. Location most desirable in the State.

For further particulars apply at the office of the S. F. MERCHANT, or to

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A list of Russian River bottom lands and red gravelly hill lands SPECIALLY ADAPTED TO VITICULTURE, will be forwarded on application. Buyers should visit Healdsburg before settling elsewhere.

Office in the Soteyome Hotel, Healdsburg.

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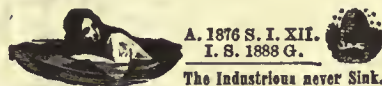
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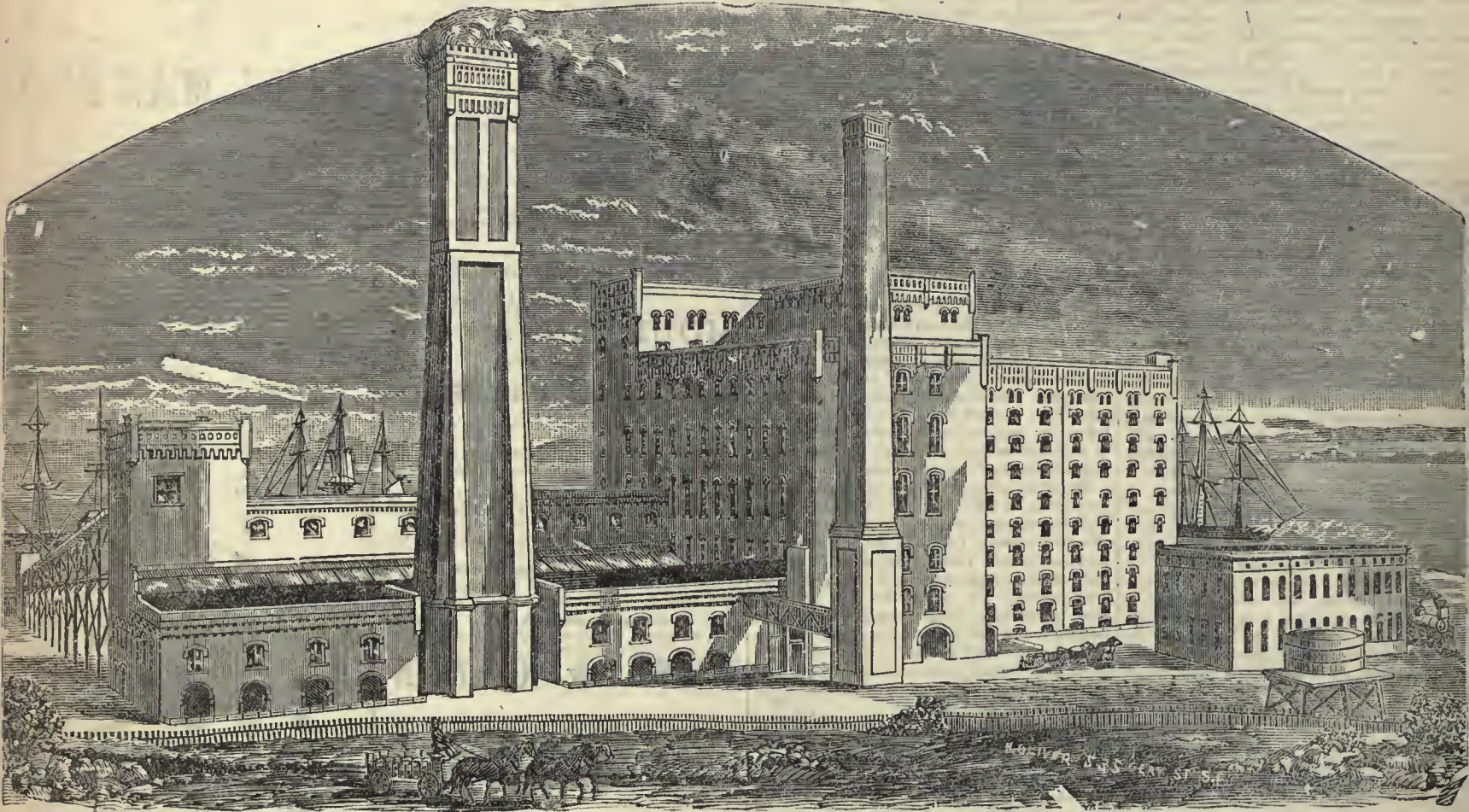
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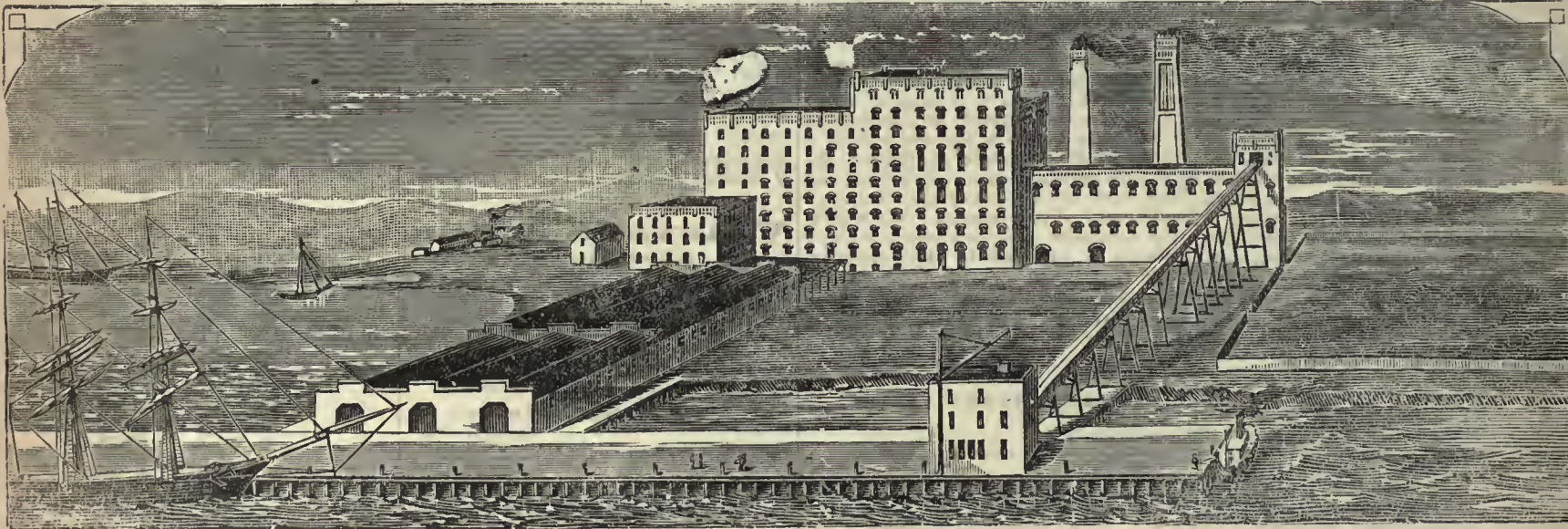
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SOUND. PURE. CHEAP WINE.

The Opinion of Charles A. Wetmore on this Subject.

[From the Report of the Third Annual Viticultural Convention.]

Mr. Wetmore.—It is true that the first consideration for all people trying to accomplish something in a new industry should be to aim at that which offers the choice of the market. The chief demand of the market of the world is for the ordinary good, sound, cheap, every day, palatable, drinking wine, and in all places in the world where there is a large market there is the largest profit. The largest profits are not always gained where the finest wines are made. The people who raise wine near Bordeaux called Vin de Palus, a bottom land wine, make more money than they do with Leoville or Lafite. That has been proven by public statistics. But as I have stated heretofore in other meetings we have a little different problem lying before us. The French have a large home consumption, which has made a demand for cheap wine, and the problem there is to get good, sound, cheap, drinking wine in as great abundance and as cheap as possible; consequently the south of France, before the Phylloxera devastated it, became rich because they made these cheap wines of Aramon, and other fertile varieties and flooded them on the market as soon as the railroads opened.

During 40 years prior to 1878 the average annual production of France was gradually increased 700,000,000 gallons, or 1,500,000,000 gallons a year and yet the price of ordinary wine went up and up all the time, it never went back, never was lower. The wines made from these shy bearing grapes such as Burgundy, Bordeaux etc., have both a limited culture and market. These will never be the great commercial wines of this coast; Mr. Estee is certainly wrong on that proposition. I will never be guilty of advising people to aim at these higher types unless they realize all the essential requisites of producing and ageing a fine wine, bottling, labeling, and bringing it to the consumer. A grower should pursue that line of policy that will certainly be profitable, for we have 50,000,000 of people to whom we may look for markets. There will be some demand for wine for which high prices will be paid but that requires capital and time. What I have advised more particularly has been the study of these noble grapes with a view to determining how the smallest per cent of shy bearing vines may be used profitably with others such as Zinfandel in making a higher grade of wines to please the market, which is a little fastidious. Our market is a little more fastidious than the French market for the reason that we have not a large community of people who are accustomed to drink wine. The more they become drinkers the less fastidious they are. Those, to whom wine is only a luxury, demand higher priced goods than those to whom it is an every day necessity. You can prove that by the class of wines we send to New Orleans as compared with those that go to New York. The people imagine we have a large trade with New Orleans with the French population and for the best wine. The poorest wine we make goes there and the best to New York. Why? Because a large majority of the people who drink wine and come to this country are those who work for a day's labor, and want wine as cheap as they can get it. For instance, the Italian wants a wine, but he wants it cheap. Every Italian fisherman that goes out of this town takes his wine with him, but he wants it cheap and he buys the Mission and Malvoisie and throughout the world a great consumption will be among these people. They, however, are not rich nor fastidious.

If, however, we can reach that fastidious, class of America, which controls the national situation of wine drinking—you will be surprised when I tell you which class it is—that particular class which controls the material for the family meal, if we get at that, we have conquered the whole field and we can make the United States consume faster than we can produce until we have a market for at least a thousand millions gallons of wine. I mean the women of America. One-half the friends I know who

drink ordinary table claret wine when they meet me at a restaurant, or hotel, do not drink it at home because the women don't like it. A man does not like to drink it alone and the women won't drink it. He may try it for awhile but the women just refuse it, and if you analyze that question you will find that it is such qualities as we make that the women do not like. You cannot make wine the beverage of the whole people unless the women like it. A man will get tired drinking wine himself while his wife is drinking tea, coffee or water. Now I think I have seen what women like. You offer them a wine that is graded as a mellow Bordeaux wine in trade, not a high class wine, but graded by merchants to suit palates which resent acidity, roughness and harshness, you will find ladies drink them, and our studies should be to make such an improvement in a larger proportion of our clarets as shall please palates that demand more delicacy and more mellowness. It is not difficult to do. When you have conquered that question you have conquered America, and until you please the women at the family table you cannot make wine a family drink. Sweet wines cannot be used as a common drink; a case of sweet wine will last a family a year, whereas they will want a regular supply of Claret, a daily supply, for instance take my own family, when in winter I have two or three men working for me I buy my wine by the cask and we use 60 gallons a month. That is business, that is the kind of market we want and you have to build it. You will have no trouble in reaching the workmen provided you can induce the employers to give them wine. Whenever you furnish your men with wine at the table instead of tea or coffee, you will find that there will not be one in fifty of them that will not like it. As soon as you do that you will begin to educate them in drinking wine and they will go home and teach their families. Give them the wine at meals. It is your interest to foster the habit of table consumption.

But you have to go to States where there is no such interest. How are you going to get there? First, you have got a certain large class of people who certainly are wine drinkers. You know from the history of foreign countries that a large proportion of their people who come to this country have formed the habit of wine drinking or beer drinking or something similar and they have no objections to wine on moral scruples. Out of our 50,000,000 people 30,000,000 at least would drink wine if you offered it to them. Pass a bottle of good wine around at a restaurant or hotel and see how many people will drink of it. The reason more people do not drink it is because they look on it as a luxury and have never been accustomed to buy it. We must make it a vital point in our contest to gain these markets. We must by some means advertise that wine is cheap so that customers at hotels and restaurants will rebel against extortionate prices. When at Los Angeles at the hotel I called for a pint bottle of California champagne which they wanted a dollar and a half for, wine that they can purchase at wholesale at \$16 for a case of 24 bottles, a little less than six bits a bottle, I asked the proprietor what he charged for Milwaukee beer with the cost of transportation added and I figured that he wanted only five cents profit on that and yet expected to make seventy cents for turning me over a pint bottle of native champagne. That is wrong and every man in the country ought to be taught what the cost of these wines is and rebel at the price at which they are retailed for; it is the exorbitant charge of the retailer that keeps consumption down. If you go to the hotels in St. Helena and call for a bottle of wine, such as the vine-growers make in that district, they will charge you six bits or a dollar for it. The cheapest I have seen it sold there for is fifty cents and it has been a dollar and they will try to explain to you that they have bought a fancy old wine; but you may try to find such old costly wine in vain. There is a little old wine but they do not buy it. They buy such wine as, if they are not fools, they can get soon after the time of vintage for 40 cents a gallon which is four cents a pint bottle and they should put it on the table at the same rate of profit as tea and coffee.

We have a right as wine drinkers to demand that we shall be treated when we go to a hotel as any other customers. Make this condition, if you have the power to enforce it, that you want to be treated as fairly as tea and coffee drinkers are treated. By keeping up such agitation you will carry this State and perhaps others, but you will have hard work elsewhere to get rid of the idea that wine is a luxury. You must find a way by which the people may get wine cheap and pure. This must be every man's individual work, to assist in creating a healthy demand. To increase your market with those who are not in the daily habit of using wine you must expect to deal with fastidious people. When you have satisfied this class, with good, wholesome palatable products at cheap prices, you have conquered the best market in the world.

But while we are doing that let us make some high classed wine. There is a market here in our own country for a limited quantity of high priced goods, and we have seen some samples here to-day which compared well with the imported ones.

There is a demand for brandy in the Central and South American States. All along the coast there you will find genuine Martel and Hennessy brandies. During the time Harry Meiggs was building his railroads the Americans wanted to drink whisky but did not succeed for they could not get it. The people drink Martel and Hennessy all along the South American coast though not in large quantities. We have shown that we can make that type of brandy too; but not with Mission grapes. What we have to do is to go on in the line of our experiments and pursue them and we can make a brandy for the most exacting markets. We know that there is a demand for such goods in London. Mr. Felix Curlier of the firm of Curlier Freres, whose main house is at Jarnac in the Cognac district of France assured me when I was in London that they had more difficulty in buying fine brandy than they had in selling it. This is one instance where the rule stated by General Darr, that it is more difficult to sell than to buy goods, will not apply. Mr. Curlier stated to me that the difficulty was not to sell but to buy fine brandy and that, so far as our tariff was concerned, as it might be affected by the proposed Chateau treaty at that time, he authorized me to say that he was opposed to it, because it only let in cheap brandy to keep out fine grades and that if we were able to make fine brandies such as they desired he would be very glad to find out where he could buy more of it. This statement on his part, that he was opposed to the treaty, was not made as a mere matter of buncombe with him, for he gave me permission to use his name.

The market for fine products, while limited, is however large in the aggregate and will provide an outlet for a portion of our products.

Again there is a large importing trade in France to-day. They are importing more than ten times the amount of the product of this State last year, into France from foreign countries, something like 178,000,000 gallons. What is the reason we cannot sell some of our wine for the regular quoted prices in Bordeaux? Such grapes of wine as can be made with Mataro, Carignan and Grosse Blauer with appropriate blends are generally worth in Bordeaux 40 cents a gallon and such wines are admitted with 15 per cent of alcohol. There is one point, however, we must get a law permitting us to fortify for the purposes of transportation up to 15 per cent so as not to have any trouble with the internal revenue. But if we can send them a wine fortified with 15 per cent alcohol, of intense color and good taste you can get 40 cents a gallon, and that will net you about 20 cents here. The market may vary a little, perhaps five cents; I have quoted the average price of last year. In the interior of this State some of the large vineyards can be run at a profit by selling at 15 cents a gallon if they will turn their attention to that line of trade. This figured out at 500 gallons per acre would be a yield of \$75 an acre at the lowest possible figure of competition. Some of these large vineyards might do it for \$30 or \$40 per acre net profit. It would be almost better than running a railroad for Governor Stanford with his 3,000 acre vineyard; but he cannot do it unless he plants the right varieties of grapes. A good Bordeaux wine

such as we can make here with Carbenet Sauvignon is worth in Bordeaux any time from a dollar a gallon up. You need not be afraid of not selling it because there is not enough produced for the trade. They will buy it in their own market. Of course, when speaking of the French market, I am only thinking of outlets for over-production temporarily.

London is a limited market; the entire importation of England of the descriptions of wines I have been speaking of in 1878 was about 17,000,000 gallons. Of course we could only get a little of that trade. It would not help us out a great deal but might help us out a little. The great importing market of the world to-day is France. Now in those districts where they have rich land, where they get large crops, where the probability is that they will not compete with our Bay counties for delicate high priced wines, if they will confine themselves to producing a wine that will suit the Bordeaux market, they will suit probably all the markets where that class of wine is used, New York as well as other places. What we have to do is to find out what wines those markets handle. That is our business now.

The impression might go out from things I have said myself, from comments we make during our criticisms of wine, in our ardor for improvement, from such remarks as made by Mr. Estee as to the Zinfandel that we are ignorant of the value of many of our good ordinary stock grapes. That is not so. The Zinfandel will always be a valuable grape in California when it is properly planted and well located. As a basis for good wholesome wines that can be fermented easily and transported it is a valuable grape. But I do caution people against planting too much of it for we have other wants at the present time. The proportion of it in our State is too large. Those who have Zinfandel grapes now must blend into their vintage varieties of some other quality, and it is for that purpose that our experiments have been made, and to study the markets and what they need. If you go into the local market and show a good Zinfandel, or one that is considered good along side of a healthy Grosse Blauer you would not get as much for it because there is a deficiency of color in trade. But do not get misled temporarily as was the case two years ago because a high price was paid for Charbano, because it had good color. It did not have as good as other grapes that could be used for the same purpose and it did not have the quality. Aside from color it was not as good as Zinfandel. We must be careful not to over stock the market with a certain line of goods. I believe it is possible to conquer the United States and I believe we will do it, to wine drinking. But we have many obstacles and customs to overcome. We have lots of hard work to do and must unite and must keep up our present efforts and must ask the State to help us to meet our competitors. We have the adulterators who compete with us. We must overcome the obstacles in transportation and do it wisely and carefully without heat in discussion, but for the good of the State. We must try to advertise our goods everywhere. We have not done enough in the Eastern country to let the people know how cheap our wines are, that they may know how to buy them. These I think, are the most important questions lying before us.

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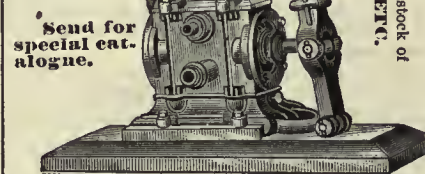
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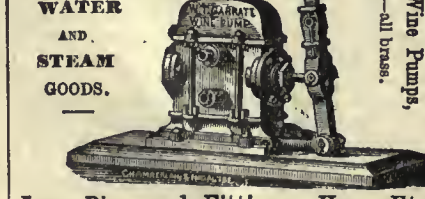
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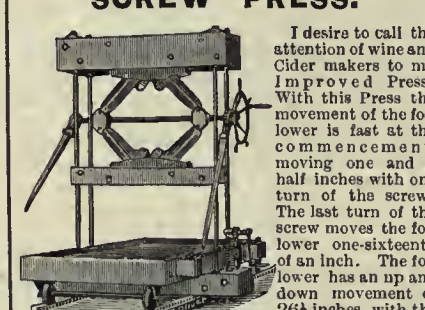
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QUESTIONS

Relating to Winemaking in California.

Report of Professor E. W. Hilgard to the State Viticultural Commission, together with Critical Comments on the part of the Commission.

OFFICE OF THE BOARD OF STATE VITICULTURAL COMMISSIONERS.
SAN FRANCISCO, May 21, 1885.

The accompanying report on "Studies on Wine Fermentation," made by Professor E. W. Hilgard of the State University to Mr. Arpad Haraszthy, President of the State Viticultural Commission and filed in this office, is submitted to the public on account of the importance of the questions discussed and to give a timely opportunity for a careful consideration of the criticisms contained therein and for further investigation of propositions advanced that may be subject to differences of opinion among experts. A large portion of the report is devoted to the discussion of time honored rules of practical vinification, well understood by all intelligent wine-makers of experience, but most valuable at the present time to beginners in the art of wine-making. The chief causes of imperfections in wines are set forth as the results of careless violations of the practical rules of the "forefathers" of older lands and of the pioneers of the industry in this State, viz: careless picking and unclean apparatus, excessive size (particularly depth) of fermenting tanks, and want of care in excluding contact of the atmosphere with the fermenting mass. Other causes of imperfect fermentation are no doubt open to discussion and explanation. Considerable attention has been also given by the Professor to questions relating to the construction of cellars, the effects of temperature upon fermentation and mechanical methods of treating must, before and during

wine making. In this part of his work, there is much debatable ground owing to the incompleteness of scientific research, imperfections in skill of operatives whose methods may thereby suffer from criticism, and want of general knowledge of practical rules, well understood in countries where the art has attained a high state of perfection through successful experience. The discussions that will grow out of the criticisms and propositions contained in this report and others of similar character, will tend to hasten the day, when our people will become exactly informed as to the extent of scientific knowledge, which is available for their use and the technical information based on actual and successful experience throughout the world, that is applicable to our new industry under varying circumstances.

Professor Hilgard's opinions, as shown by this report and by his remarks made at the last State Viticultural Convention, indicate his preference for a certain line of methods for improvements in practical vinification, based upon control of temperature in the fermenting room, and *slow fermentation*, the control and nursing of the activity of the fermenting germs being otherwise not considered, or deemed of secondary importance with respect to the skill of the operator. This direction of proposed reforms involves, of course, well known and undisputed principles of mechanical appliances, with some relatively unimportant questions at issue relating to the advantages obtained by different mechanical methods of treating musts, such as crushing, or not crushing the fruit, aeration before fermentation, etc.

The Chief Executive Officer of this Commission has advanced an opinion which looks towards improvements, based mainly upon the revelations of scientific research into the life habits and physiology of the different germs of fermentation, the control of such germs with a view of directing, or restraining their energies, and prompt, steady vinous fermentation—as rapid as a condition of health may permit, the controlling of the *exact degree* of temperature within the range of healthful action being considered of secondary importance in practical and economical work. In this State the general average conditions of temperature, during vintage season being within the limit recognized as favorable for fermentation, the difficulty of maintaining a reasonably good control for practical success does not assume primary importance in the consideration of rules for wine-mak-

ing, although some protection against extraordinary changes of temperature during wine making should be provided,—the more complete the better. He holds, however, to the opinion that our climate in many places is unfavorable to the constant and sure development of germs of ferment upon the fruit and that in all parts more or less difficulty sometimes occurs, due to climatic and atmospheric influences such as desiccating north winds, sudden frosts, etc., which may kill, or render the germs inactive, at the time the wine-maker commences his operations, and that in some cases, where excessive saccharine impedes complete fermentation a languid development of yeast at the start is to be feared as conducive to imperfect results. He has observed that the chief complaints of imperfect fermentation are most noticeable in those parts of the State, where other manifestations of fermentation, such as the rotting of vegetation, and the analogous phenomena of putrefaction are shown by experience to be the least prompt. He does not wish however to be understood as not recognizing the great importance of controlling temperature in the cellars where young wines are being matured.

As an illustration, Professor Hilgard refers to certain rebellious musts, treated in his laboratory, viz: those of the *Mourisco Branco* and the *Malmsey*, one of which would not enter upon vinous, but went into the mannite fermentation, and the other, "fermented but so slowly that it acetified almost as fast as the alcohol was formed." These varieties, he says, "should doubtless have been fermented some ten or fifteen degrees higher, in order to go through safely." Likewise he attributes the cause of certain diseased fermentations at Folsom solely to the want of a properly constructed cellar and absence of control of the temperature.

The Executive Officer of the Commission on the other hand would suggest that the failure of the *Mourisco Branco* to enter upon vinous fermentation, under conditions of temperature favorable to other varieties of must, indicated the absence of active, healthy vinous germs in the must at the start, which should have been supplied in order to prevent by their activity the development of the diseased condition, which resulted in the conversion of the sugar into mannite, during the formation of which it was too late to attempt to restore a healthy normal action; otherwise the fault must have been in the absence of proper food for the vinous germ, when the remedy might possibly have been in the addition of a certain percentage of water, or albumen or other known germ food, which careful analysis of the must might reveal.

With respect to the *Malmsey* and its languid mixed vinous and acetous fermentation, the facts would indicate a want of energy at the start on the part of the vinous germs, which should have been supplied and which would have prevented the development of the acetic, the presence of the latter being probably due to some unclean-

liness of the apparatus, the bad condition of the grapes, when crushed, or some carelessness on the part of the operator, in introducing unclean fermenting must as yeast, etc. He would point to frequent well known experiences, which tend to show that certain climatic conditions during, or subsequent to the picking of grapes, before crushing, affect the activity and healthfulness of germs, whether by destroying them, rendering them torpid, or otherwise, which possible accidents may be provided against by the carefulness of the wine-maker in supplying the necessary contingents of ferment organisms, which are after all the only real wine-makers. With respect to the diseased Folsom wines, which he also had examined and previously reported upon to the proprietor, he would, while lamenting the want of a well constructed cellar sufficient for the control of temperature against unusual and violent changes, counsel that the fault was mainly with the wine-maker, who undertook to ferment out twenty-eight per cent of sugar from *Zinfandel* must contrary to the rule of experience in this State, and with the proprietor who gave instructions not to pick the fruit until it was as ripe as possible; that the practical remedy would have been in the addition of water to the must to reduce the degree of sugar to at least twenty-four per cent, and the addition of vinous germs, if local experience indicated the necessity, and, that with even imperfect fermenting rooms he might have been practically sure of securing a perfectly sound wine, although he might subsequently suffer from want of a proper cellar for keeping it in good condition.

He would also venture an opinion that even twenty-eight per cent of sugar in *Zinfandel* might be thoroughly fermented out and sound wine be produced by fermenting in very low vats, with the aid of an abundant supply of vinous germs—the true wine yeast, germ food if necessary, frequent and thorough stirring of the fermenting mass, the wine being left on the pomace after it became quiet until it would draw off clear and bright from the spigot and the top being protected from acetic fermentation by a light cover placed thereon before acetic fermentation had ceased—excess of carbonic acid gas passing off through a pipe with its nose immersed in water. As to the quality of such an alcoholic product, he would not pass judgment without seeing the same, but would caution the proprietor against picking over-ripe grapes as a general rule for claret wines.

These opinions of one, as industrious and earnest in the cause of viticulture as the Professor himself and equally well informed as to the experience of wine-makers throughout the world and in the literature of the industry, indicate that there are divergent lines of study in viticultural work which may each produce important results of practical advantage, ultimately harmonious, and that no one of them deserves to be snubbed, as has been attempted by the Professor, by any contemptuous allu-

sion to the simplicity with which they are proposed for public consideration, even though a "little common sense" should be weighed in the scales against undemonstrated propositions.

The discussion of the so-called "Morel" process, which is only a modification of a well-known method practiced in some of the cellars of France is interesting, but the Professor has yet to report upon its success at St. Helena, where it was first introduced in California, the wines produced by it being now daily served upon some of the most fastidious tables in this city. He will also have an opportunity to investigate the merits of wines produced experimentally in the Livermore Valley by the same method, modified by the removal of the stems before fermentation. We have generally understood that the grapes of the *Pinot* family which makes fine Burgundies, are so heavily charged with fermentescible properties that that the wines are, unless well fermented on the skins, seeds and even stems, easily affected by motion and changes of climate, the usual remedy for this fault in trade, being to fortify them before exportation with heavy strong and durable wines of the south of France, a region where slow fermentation is not talked of but where every effort is made to promote active, prompt and complete vinous development.

The reference to the wines of the south of Spain must awaken some divergent discussion, for it is well known that many of the finest sherries are transported, if not mixed with sweetening wines, with facility without fortification as well as also some of the Clarets of Rioja; the same also being true of the Hermitage and Cote-Roti and other noted wines of the south of France. Dr. Guyot refers to the superior qualities of the wines made near Nice, one of the chief features of which is that, while possessing very fine quality and transportability they ferment rapidly. Common opinion has generally attributed the transportable weaknesses of certain Spanish and Southern wines to the imperfect qualities of certain varieties of grapes and also to a condition of over ripeness of the fruit, when picked, while recognizing the durability and good quality of wines made in the same districts under similar circumstances of such varieties as the *Petite Syrah*, *Mataro*, *Cabernet*, etc. It appears doubtful therefore, whether the doctrine of slow fermentation, controlled only by the regulation of temperature, as the only means of producing fine durable wines, is supported by reference to the wines of Southern Europe.

It is probably true that to produce certain peculiar qualities, desired for certain types of wines, slow fermentation may be a desideratum, but it does not appear clear that fine qualities and durability are to be destroyed by judiciously managed, prompt and vigorous action.

M. A. DeVergnette Lamotte in his work, entitled *Le vin*, sums up French experience with reference to the value of prompt commencement of fermentation as follows: (translated)

"A fact very worthy of remark and recognized in all vine districts is that good fermentations are prompt in commencement. (*Instantanées*)."

These comments are presented to the public, together with the Professor's valuable report, in order that the many competent men among us may be stimulated with the spirit of inquiry and investigation towards rapid solutions of the most important questions that necessarily underlie all theories of practical vinification and cellar construction and control.

In a short time, the Commission will publish also the report of Professor Rising, the Professor of chemistry at the University and State Analyst, which it is understood will be devoted to strictly scientific discussions, free from debatable questions of practice.

When the experimental cellar work, provided for by the last Legislature to be under the joint direction of this Commission and the State University, shall have been put into operation, wine-makers throughout the State will have an opportunity of testing, by practical observations, many methods of disputed merits. Clearly defined differences of opinion will assist the public in forming conclusions as to the results that may be obtained.

CHARLES A. WETMORE,

Chief Executive Viticultural Officer.

REPORT ON

"Studies on Wine Fermentation."

Made to the State Board of Viticulture by E. W. Hilgard.

Arpad Haraszthy, Esq., President State Board of Viticultural Commissioners, San Francisco.

DEAR SIR:—In accordance with the agreement made with your Board last season, I have devoted the latter portion of the summer vacation, and the whole of the October recess of the University to excursions to various viticultural districts, for the study of methods of fermentation used in wine-making, together with the appliances therefor, in order to ascertain the causes of the frequent "turning," milksourness, and other diseases of our wines, that injure their quality, keeping properties and market value. I have continued the same line of study in connection with the fermentations made in the viticultural laboratory at the University, and in the chemical investigations of various damaged wines. Of course the subject, as you are aware, is a very wide one, and will require years for its measurably complete investigation; but some results of very direct bearing upon practice can even now be definitely stated and are herewith given so far as they have fallen under my personal observation. I leave to my colleague, Professor Rising, the more detailed presentation of his personal researches on the nature of the improper fermentations investigated by him, as well as of such general points as have come under his observation in my absence.

The points visited by me are the following:

During the first week of August, 1884, the Natoma W. & M. Company's establishment at Folsom; and the following week, the neighborhood of St. Helena, Rutherford and Oakville, Napa County, and thereafter, the wine cellars in the neighborhood of Glen Ellen, Sonoma County. These visits were made in company with Professor Rising. During the October recess, when the vintage was in full progress, I visited, alone, the establishment of Mr. Charles Lefranc, and of J. B. J. Portal, in the Santa Clara Valley; and subsequently the more important wineries in the Fresno region. I present first the facts as noted, and thereafter a discussion of the conclusions to be gathered from them.

At Folsom, we found the building that has been used as a winery to be a mere shell, with scarcely a show of an attempt for the maintenance of a uniform temperature; while at the same time the fermenting tanks were very large. Two kinds of wine of the previous season's vintage were still on hand; of these, a claret made from mixed grapes was extremely faulty, being both acetified and milksour; the other, a white wine, fortified, was not quite so bad, but still had evidently suffered from the same causes as the claret, and both were only fit for the still. In consequence of this and previous similar experience the company had given up the building in question altogether as a winery, expecting to build a new one in a different location, and to sell the current season's grapes to other parties, apart from those which were subsequently sent to the viticultural laboratory to be made into wine experimentally.

This case would have been an excellent instance of the effects of high temperature fermentation with exposure to cold nights and warm days. But unfortunately the samples promised were not received; and I should here state that the difficulty of procuring samples having an authentic history has been a serious obstacle throughout, so that we are not able to report results as definite as had this been otherwise, they could readily have been. The question: "Have you had any cases of difficult fermentation, or milksour, or otherwise sick wines," was almost habitually answered in the negative, and that in many cases in which such wines were known to have come

from the hands of the person answering. In part this doubtless proceeded from ignorance, but there was too often an evident indisposition to admit the existence of any such difficulties at all, despite our definite statement that individual cases were not intended for publication, but that we only desired a knowledge of the disease in order to devise and recommend a remedy. You are aware that I afterwards pointedly stated these facts in public, at the Viticultural Convention held in December. I earnestly hope that this unfortunate and unnecessary impediment in the way of this important line of inquiry will hereafter be done away with by a more general and enlightened understanding of the need, objects and methods of such investigations.

On our visit to the Napa Valley we found on the whole a very fair understanding of the need and conditions of a good fermentation. Apart from the rock cellars of the Bro's Beringer and of Schramm, the wineries, of Thomann, Crabb, Pellet, Scheffler and others show from fair to good provisions for the control of temperature both during first and second fermentation, by the use of double board walls and roofs, as well as partitions impeding the excessive ingress of the outer temperature. We noted that special precautions in these respects were being introduced in making the changes in the large winery of Mr. Krug, then being prepared for the use of the Napa Valley Wine Company. We found in one cellar a package of red wine graphically designated by the proprietor as "the stink," but which was being used with relish by the workmen on the place. It was a very fair sample of milksourness, but it was not very sensibly acetified; and I note that in general, precautions against the latter source of damage seem to be taken more effectually in the St. Helena region than elsewhere. The proprietor was not able to give its precise history, but attributed its condition to, most probably, the unsound condition of grapes during the latter part of the previous season's vintage, brought about by the untimely rains. A good many grapes had burst and subsequently become water-sodden, affording abundant opportunities for the development of improper fermentations in the vineyard itself. Under such circumstances only very especial care in the handling of the crop could insure the production of sound wines.

From St. Helena we crossed Sonoma mountain to Glen Ellen, making the vineyard of Mr. J. H. Drummond, unfortunately, on a day when he was absent. We however had an opportunity to examine his winery, and noted that he has wisely discarded the large 8000-gallon tanks of the olden time for the small 2000-gallon ones now generally coming into use. We noted that the building was still quite imperfectly secured against the influence of change of temperature, or of the excessive temperature sometimes prevailing in the Sonoma valley during vintage time; but understand that he intends to change all that, and build a suitable fermenting house and cellar, as soon as possible. A smaller cellar was at the time, in course of construction. The general excellence of the wines shown by him at the Viticultural Convention proved how far good management and scrupulous care may make up for defective arrangements.

The cellars of Mrs. Warfield and Mrs. Stuart were practically empty at the time and little could be seen in respect to the actual management. At one winery, however, there was one 80-gallon cask of wine that had failed to go through its fermentation, and had been transferred from the cellar to the upper floor in order to start it again by increased temperature. A slight action was going on, but from the taste of the wine I inferred that it was rather on the way to the mannite condition than to that of a sound dry wine. Here, again, no clue to the history of the obstinate cask could be obtained.

My visit to the Santa Clara valley was made early in October, when, the season being very late, the vintage was still under full headway, and at some wineries, as at Mr. Lefranc's, only just begun in earnest. I found at the latter place that the only grape that had been crushed thus far was the Malbeck, and that had just completed its first fermentation; the Murk had a splendid deep color, and seemed thoroughly sound, while showing to a marked degree

the peculiarities of the Malbeck in taste and flavor. I noted that Mr. Lefranc, though fermenting without a swimming cover, was gratifying to keep the pomace submerged, leaves empty an unusually large space above the pomace and keeps the tank closely covered, so as to keep in the carbonic acid gas and prevent acetification as much as possible; also that he is very prompt in drawing off the murk upon the cessation of fermentation, his object being to utilize the pomace for Piquet, to be distilled or drunk by the men on the place, the case may be; the product being of course better for either use on account of the prompt handling, which gives little opportunity for acetification, or other incipient decomposition. Mr. Lefranc also takes care to agitate the pomace several times during the fermentation, by hand, with proper stirrers; but he crushes by means of a cylinder crusher.

While Mr. Lefranc's fermenting arrangements do not afford all the security against change or excessive elevation of temperature that would be desirable in a climate so much more extreme in the latter respect than is the case in France during vintage time, yet his close supervision and the promptness with which the several operations are performed at the proper time seem to afford reasonable security against any serious trouble. Mr. Lefranc said that difficulties occasionally arose from his inability to secure workmen to do things just at the right time. I found his winery (constituting a somewhat straggling array of buildings) kept very clean and without any scent of acetification. He also directed his pickers to exercise judgment in their work, leaving unripe and unsound bunches on the vines for a special picking, and hence he does no sorting before the crusher; but he complains that the pickers do not act fully in accord with his instructions as could be desired.

On the following day I visited Mr. Portal's vineyard and winery. Here the grapes seemed to have ripened somewhat earlier than at Lefranc's, and the crushing was nearly over, the quantity having been but small as yet. Mr. Portal's winery is, on the whole, well planned with respect to convenience and the maintenance of a uniform temperature, with double plank walls above ground; the tank room well protected, and the cellar for storage and after-fermentation a "demi-souterrain" with good provision against change of temperature. With such arrangements and careful management, excellent results should be obtained.

At Mr. John T. Doyle's winery, visited on a previous occasion, both the arrangements and the management seemed to be of a rational and careful character. But as his establishment was not seen in motion, I reserve further comments for another occasion.

Throughout my experience in Northern California, within the last few years, I have been favorably struck with the cleanliness generally observed in the vintage operations. The dangers arising from the use of vessels not properly cleansed or purified seems to be much more generally appreciated than is the case in many of the European wine-making countries, especially in the South.

A four days' visit to the Fresno district also during the October recess of the University, concluded my field work for the season. By the courtesy of Mr. Eggers, who placed his time and team at my disposal, I was enabled to see comfortably, in this short time, the working of the chief wineries of the region, where the vintage was in active progress.

A most notable change that struck me at once as having occurred since my visit of three years before, was the rank growth of tall weeds that has sprung up in and near the colonies wherever the ground is left uncultivated, showing by their kind and rankness the fact that permanent moisture now lies within easy reach of their roots. In low ground the surface even is moist at some distance from irrigation ditches; in short the whole country seems to have filled up with water from below, the previous soil allowing of easy percolation. This cannot be regarded as altogether a welcome phenomenon in a vine-growing district; for since in the sandy soils the water does not rise spontaneously to a great height, it indicates the proximity of bottom water to the surface; a state of things that cannot but be very detrimental to the quality of

the product, especially in the case of wines. At the Eisen vineyard the water was actually almost at the surface in some of the lower ground, with a most disastrous effect not only upon the grapes, which were molden and sodden, but also upon the vines themselves, which looked sickly and watery. The same effect already appears at other points, and as the irrigation ditches multiply, the question of lowering the water level so as not to allow the vines to have "wet feet" will become a very serious one. It is a problem that requires solution in all irrigation countries, but it is more especially important in the Fresno region because the sandy soil is not intrinsically very rich in plant food, but allows the roots to go to great depths and thus make up by the extent of their penetration for the relatively low supply. If this compensation is cut off by the rise of bottom water, the effect will be that the few feet of soil to which the grape roots are confined will soon need to be fertilized artificially in order to maintain production.

An examination of the arrangements for and conduct of fermentation at Eggers' establishment showed them to be well devised and carefully attended, although in ordinary seasons probably the elevation of the temperature, and its changes from day to night, might still be greater than would be desirable. The pomace is here kept submerged by false heads or frames held down by conveniently arranged cleats, and the drawing off of the murk is done with reasonable promptness after the subsidence of the violent fermentation; the latter was this year completed in from seven to nine days. The determinations of acetic acid in Mr. Eggers' Zinfandels, given below, show that in comparison with other dry red wines from the region the amount of acetic acid was very light. Yet in view of the high temperature usual during the vintage, this is undoubtedly a point needing very especial attention in Fresno, and which is not as yet fully appreciated by the winemakers. The fermenting vats in the Eggers winery are throughout of moderate size—1,900 to 2,100 gallons, such as is specially called for in a region where a too rapid fermentation is likely to be the standing drawback upon the production of well-keeping and high-bouquet wines.

The establishment of the Fresno Vineyard Company is also on the whole well arranged and managed with due regard to the difficulties imposed by the local climate, so far as the process of first fermentation is concerned; although the wooden buildings naturally fail to afford all the proper conditions for undisturbed after-fermentation, which in Fresno could hardly be fully realized outside of very substantial adobe or stone buildings; cellars being rendered precarious by the continued rise of the bottom water. In the absence of such cellars, the plan now largely under consideration, to transfer the Fresno vintage to large storage cellars within the temperate Bay climate as soon as feasible, seems highly commendable; for under existing arrangements, we probably have scarcely yet seen a Fresno wine of as good quality as the nature of the climate and material permit.

I noted here with pleasure that some care was exercised in regard to the selection of the grapes as they were passed up on the apron, to the crushers; the process not being pressed so much as not to enable a careful person to pick out at least the bad cases of unripe, decaying or mouldy grapes, as each box was being emptied. The same was done at Eggers' winery, where a table placed under the apron allowed of a previous sorting. This is manifestly one of the chief points wherein less care is likely to be exercised in large wineries than in smaller ones, where the pressure for time is not usually so great. There can be no doubt that a large proportion of the faults of our wines, both in respect to taste and keeping qualities, is due to the large amount of germs of improper fermentations introduced into the vats through mouldy or otherwise unsound grapes. This is very often obvious to the taste so far as mould is concerned; yet the mould germs are not the most objectionable in so far as they at least bring about an alcoholic fermentation, although they cannot carry it very far. But with the mould there too often come also the ready formed germs of the lacto-butyric and vicious fermentations that may, for

the time being, be rendered inactive by stormy fermentation, but are liable to be called into activity, whenever, during the after fermentation or subsequently a rise of temperature offers the proper conditions; and they remain a standing menace to the keeping qualities of the wine, to be overcome only by the "pasteurizing" process of heating. So with the germs of the mucous fermentation, which are but too commonly introduced with the grapes that have suffered from wet weather and when broken between the fingers will often exhibit their slimy or "ropy" conditions to the most casual observer. A wine contaminated with such material may, with good care and proper handling, develop and keep fairly well; but in case of any neglect, or a spell of unfavorable weather during shipment or temporary storage, the inimical germs may find their opportunity for development, and thus, what seemed, and for all present purposes was, a perfectly sound wine at shipment may become utterly worthless in the hands of the purchaser or consumer. Some notes of markedly improper management in this respect are given in part second of this report. One winery visited, and with considerable attention to details, was one in which there is a departure from the usual practice of making red wines, in the adoption of that which prevails more or less in the Burgundy districts of France, and which was advocated and introduced here, as well as originally at Mr. Scheffers' near St. Helena, by the late Mr. Morel. The handsome main building in external appearance resembles a brewery, having the ventilation in the roof intended, or certainly calculated to produce, a very rapid and free circulation of air. Inside we find the building as lofty and airy as promised by the outside appearance; no upper floor, but all open under the roof, and the fermenting tanks in long rows on a low platform on the ground floor. Into these the grapes are at once dumped from the wagons without previous stemming or crushing; these objects being accomplished gradually by a daily or twice daily working with wooden stirrers provided with pegs projecting crosswise, and thus, in the course of time, pretty sure to crush, or at least open, all the grapes that have attained the proper degree of ripeness, while leaving whole those not sufficiently ripe, as well as those that have by any means been damaged and dried up.

This survival of the unfittest through all the pounding with the stirrers is claimed as one of the advantages of this method, as against the hand-picking that would otherwise be necessary in order to avoid the introduction of such improper material into the wine; and inspection of the pomace showed that to a considerable extent this claim was well founded.

The chief claim, however, is that by this system of gradual crushing, the fermentation is kept under control, preventing any undue rise of temperature, and hence, a too rapid fermentation in the tanks. The process can, in fact, be made to last for weeks in this manner, and thus a complete extraction of the color and tannin seems assured.

While that much can be admitted in favor of the process there are serious objections to it both from the theoretical and practical standpoints.

In the first place, it is well known that the wines of Burgundy and the adjacent regions, where this method of fermentation prevails, will not bear transportation well, as a rule. This would be a capital objection to California wines, which must in the main look to an Eastern or foreign market. That wines fermented thus are not likely to be good keepers is apparent, when we consider the most ordinary rules current among winemakers elsewhere. A regular, uninterrupted fermentation is always commented upon as being one of the prime needs for the production of a sound, and well-keeping and shipping wine. It is even considered bad practice to introduce any fresh must into a previous day's crushing or pressing, and except in cases of necessity, no one will think of mixing fresh must with wine that is nearly or quite through its fermentation. Now, this is precisely what is currently done in the "Morel process," (as this method is usually designated at Fresno), for, every day fresh must is mixed with the partially fermented product of all the previous days. More-

over, each portion so added is carried very rapidly through its fermentation by the overwhelmingly large mass of fermenting wine with which it comes in contact; and here again, one of the conditions conducive to good keeping, viz: *slow fermentation*, is violated. Again, there is a limit to the time during which it is desirable that the wine should be in contact with the pomace and more especially with the stems, always introduced in this method, when wines of fine quality are to be produced. Such long maceration presupposes a very clean and perfect material, if serious defects of taste are not to be felt in the wine.

Such are some of the most obvious defects of this method from the points of view observed in almost all winemaking countries, as well as from that of experience. It has equally serious drawbacks in its actual practice, unless that practice is a very careful one. First of all, the long exposure of the mash to air, under the very slow disengagement of carbonic acid gas that, with the twice-daily disturbance fails to form an adequate protective covering, inevitably results in the greater or less acetification of the same. In consequence of the frequent removal of the surface, this fact does not become as obvious to the senses as is the case when the "hat" is left undisturbed, the same portions being in that case long exposed and becoming very much soured. But the failure to perceive the effect of the air does not show that it does not exist to a serious extent; and it will inevitably appear in the wine. That this is actually the case is apparent from the analyses given below, as well as from the tasting of the wine.

It is true that this effect could be measurably obviated by covering the tanks with a "floating" cover after each stirring. But the arrangements necessary for doing this conveniently are quite elaborate, and as a matter of fact nothing of the kind is done. Hence, notwithstanding the excellent ventilation in the building, a decided acetous odor was perceptible, and was especially unmistakable in the tanks themselves.

Considering all these objections it must be held that the "Morel method" of making red wines would be admissible only in case it should be shown that it offered advantages of great moment not to be attained by the usual method of crushing and fermentation, whether as to quality or cost of the product.

I do not think that any such advantages can be shown to exist.

The first claim, viz.: that it effects a material saving in the cost of the plant and operation for crushing, cannot be maintained so as to show any material gain. It is a well recognized fact that for the finer qualities of wine, the introduction of the stems of the grape is as a rule inadmissible; in any case, facilities for stemming *must* be provided, for a large number of cases. But the apparatus and power needed for the stemming does, or can be made to, simultaneously effect the crushing also without any perceptible addition to the cost. The rotary stemmers and crushers, moreover, effect to a great extent the same discrimination against the crushing of unripe and half-dried grapes, as that which is made by the hand crushing with stirrers used in the "Morel process." The same is not true, at least as regards the unripe grapes, in the case of roller crushers; and it equally fails when, as is too frequently done, the rotary crusher is run at an *excessive speed*, actually cutting the grape skins to pieces. But any one observing the action of that machine carefully, can note the fact that for each grape variety the speed can be so regulated as to crush only the properly ripened berries. This effectually disposes of any claim to advantage on this score for the "Morel system." The argument relating to cost of plant, however, turns rather against this system when we consider the inadmissibility of the uncovered surface of the tanks or mash under the hot atmosphere of Fresno, in which acetification assumes rapidly unknown in more temperate regions. Considering the fact that the protecting covering of carbonic acid gas is destroyed every time the mash is agitated, as thoroughly as it must be in order to effect the proper breaking of the grape berries, nothing short of covers resting on the surface of the mash itself could adequately prevent acetification. This renders necessary for the production of sound red wines by this process, the employment of floating cov-

ers which must be effectually hoisted out of the way of the stirrers each time the latter are used—twice a day, according to usage. This necessitates not only special appliances and much labor, but also a very high, clear space above; far more than is called for when the mash is agitated a few times during the fermentation for the sole purpose of favoring the extraction of the hulls and the equalization of the temperature in the vat.

As the claim that it permits of accomplishing slow fermentation even during the heated term of a Fresno vintage, this also is in a great measure an illusion. It is true that the undue rise of temperature can thus be avoided, especially if the excessive ventilation now adopted be restrained. But for all that, the successive portions of must are each rushed through fermentation very rapidly, thus preventing the chemical reactions which, during a *truly* slow fermentation, lay the foundation of the fine aromas or bouquet subsequently developed. At Fresno, as elsewhere, the remedy for the effects of the prevailing high temperature during the vintage season must, as regards fermentation, be sought in the proper protection of the fermenting rooms, in the use of moderate-sized vats, and the avoidance of the crushing of grapes brought from the vineyard at a high temperature. Due attention to the latter point alone would be sufficient in many cases, to restrain the violence of the fermentation within the limits required for the production of the class of wines to which the Fresno climate naturally lends itself most readily.

It is not easy to see what advantage is to be gained by the extravagant provisions made for ventilation in the building, that practically puts the fermenting tanks out of doors. Purity of air in a winery is certainly desirable, and is in reality more important than is usually supposed. But there is no need of so much circulation that the air surrounding the tanks ceases to warn the attendants of the state of the things inside.

ANALYSES OF FRESNO CLARETS 1884.

NAME.	ALCOHOL.		BODY.	TANNIN.	ACID.		ASH.
	By weight.	By volume.			Other than Acetic Tartaric.	Acetic Acid.	
Claret 1883, Morel Process.	9.56	12.10	3.37	.232	.504—1.56	.660	.483
Zinfandel 1884, Morel Process.	9.34	11.64	3.34	.121	.395—.077	.472	.400
Zinfandel 1884, No. 2, Eggers, stemmed and crushed.	9.76	11.90	3.00	.334	.607—.041	.648	.271
Zinfandel, No. 9, Eggers, pure pressed wine, '84, stemmed and crushed.	10.03	13.55	3.00	.256	.558	.638	.338

The above analyses, made by Mr. Geo. E. Colby, show strikingly the effects of the "Morel process" of fermentation at Fresno. The volatile acids (chiefly acetic) are in the "Morel process" claret, nearly twice as high as in Eggers of the same year, while "the Morel" of the previous very warm year shows nearly four times as much. Other interesting points in the above analyses are the very large amount of ash in the "Morel" clarets, resulting from the complete extraction of the skins which nevertheless did not yield as much tannin as Eggers. Again, the press wine, No. 9 shows a higher alcohol percentage than No. 2,

which represents the "whole" wine, showing that in the pressing, unfermented sweet juice was set free and then fermented out; while, contrary to the usual supposition, the acid of the press wine is lower than that of the "whole" wine.

GENERAL CONCLUSIONS.

As a summing up of the chief causes of imperfections in our wine, as connected with the present practice of wine-making, the following statement might be made:

1.—WANT OF CARE IN RESPECT TO THE EXCLUSION OF UNSOUND GRAPES FROM THE CRUSHING PROCESS.

This cause is especially potent with respect to red wines, in the manufacture of which the wine remains in contact with the pomace for so great a length of time, that the germs of the several different fermentations will have time to contaminate the product to a very considerable extent before the drawing off, and thus form a standing menace against the keeping and improvement of the wine, unless the latter is "sterilized" by the pasteur process of heating.

This cause is of course controllable by reasonable care in the picking out of imperfect bunches before crushing, whether in the field, as is commonly done in Europe or on a table in which each box of grapes is emptied before passing on the apron or stemmer. The rejected bunches will, according to the value of the grape variety be either again picked over, or consigned to the still as a whole. But if a batch of wine has been made from unsound grapes, it should be kept in mind that it is liable to disease and that to use it in blending is to leaven the whole mass of the blend with dangerous germs. This undoubtedly constitutes one of the greatest dangers threatening the reputation of our wines abroad.

2.—EXCESSIVE RISE OF TEMPERATURE DURING THE VIOLENT FERMENTATION,

Whereby the true wine yeast is either seriously checked in its development or at times entirely killed, so that the wine cannot be fermented dry without the addition of fresh yeast, and, sometimes, of fresh material for its formation. There can be no doubt that this has been one of the most prominent causes of unsound and half fermented wines in the early times, when the large tanks were in general use. It is undoubtedly still a frequent cause of imperfect fermentations in the hotter portions of the State, or in particularly hot vintage seasons. It is too commonly supposed that when a temperature of a fermenting tank has risen high, with stormy fermentation, which then subsides quickly that the fermentation is happily over in a short time; whereas it may simply have been stopped by the killing or at least weakening of the yeast by the excessive rise of temperature. Again such rise, while checking the vinous fermentation, will in the presence of other germs, derived from unsound grapes, favor the development of the lacto-butyric fermentation, which may not perhaps proceed very far for the time being in consequence of the cooling down of the tank, but will ultimately, on the occurrence of favorable conditions, take its course and definitely spoil the product for all but the still.

The same conditions occur to a greater or less extent whenever the formation of a "hat" is permitted, in which often times the hand will find an almost uncomfortable temperature. A certain proportion of the wine is thus subjected to undesirable influences in many respects, as is more fully stated below.

3.—UNDUE ACCESS OF AIR, ALLOWING OF PARTIAL ACETIFICATION.

This is by far the commonest fault of California wines as found in the market, and especially so in the red wines. Even a casual inspection of the manner in which the fermentation of these is mostly conducted explains the cause. Almost throughout we find that the objectionable "hat" is allowed to form in the tanks, which but too often are left without any cover whatsoever. If this is considered an objectionable practice in countries where the temperature of

the vintage time is such that from 10 to 17 days elapse before the cessation of active fermentation, how much more fatal must it become to the wine's soundness where the temperature of the air is actually that which is purposely maintained in vinegar factories in order to promote the most rapid conversion of the alcohol, into acetic acid. It is true that in the first stages of fermentation the rapid evolution of carbonic acid gas affords a protecting cover; but so soon as the violence of action subsides, the unhindered access of the outer air with its varying temperature soon destroys the efficacy of that protection, and I have seen cases in which the heat in the "hat" was evidently being maintained quite as much by the rapid oxidation of the alcoholic vapor, rising from below into acetic acid, as from the direct effect of the fermentation. When afterwards the vat remains untouched until the pomace sinks of its own accord, or when even the otherwise desirable practice of agitating a mash is performed under such circumstances, the conditions for the formation of vinegar are the most favorable, and it is no wonder that the wine becomes incurably tainted with the acetic ferment.

I have seen in many otherwise very well arranged winery tanks, long past fermentation, in which the "hat" had sunk to the bottom and was replaced by a whitish scum that had formed on the surface while a decidedly acetous odor filled the empty part beneath the loose cover. It is vain to expect that such methods of work should result in a sound wine, no matter how perfect that appliance may be; and it can not be forgotten by those who tasted the wines exhibited at the late Viticultural Convention, that among those made from fine grape varieties there were many whose acetous taint completely spoiled and overshadowed their otherwise excellent qualities.

There can be no doubt that both with a view to the safety of the wine and the full extraction of the color and tannin from the grape skins, either the formation of the "hat" ought to be wholly avoided in our climate, by the introduction of one or several false bottoms to keep the pomace submerged; or else that the access of air be prevented by the simpler expedient of "floating covers," leaving only a narrow space around their edge for the escape of the gas. The latter expedient is, of course, a compromise; as, while it does not prevent the formation of the "hat" it renders it innocuous so far as acetification is concerned by preventing the access of air, and allows of the stirring needed for the full or prompt extraction of the color and tannin, when the cover (formed of halves) is raised out of the way.

The use of these "floating" covers allows us to dispense with the full-size covers for the tanks that are needed even when the latticed false-bottoms are used, if there is to be any delay in the drawing off; for the narrow annular space around the cover resting on the "hat" allows so little access of air that a reasonable delay in drawing off is of little consequence.

It is presumable that those who take so little heed of the danger of acetification as to allow it during fermentation, will not exercise all due care when it comes to the after treatment and ullage. But it is worthy of mention in this connection, that, owing to the presence of a large contingent of the acetic ferment in such wines, they are very much more liable to farther damage, and most commonly get their full share of it.

As an illustration of the above three points in practice I present the record made of a visit to a winery in which, at the time, at least, all the rules for the production of sound wines were flagrantly sinned against—happily and altogether an exceptional case, yet resulting in an unjust prejudice against the capabilities of the whole neighborhood for the production of wine.

Around the lower end of the crusher apron stood scores of boxes filled with grapes in all stages of mouldiness and rotteness, unfit for any use whatsoever, whether connected with wine making or distilling. Among them could be found samples of all kinds of fermentation—vinous, generally far gone into the acetic; viscous, the grapes drawing out into long slimy threads when pulled apart; lacto-butyric, soft and smelling of cheese; no end of moulds of several kinds, black, green, and

white. In the absence of the proprietor, I did not care to press the inquiry as to what was going to be done with the material before me, but received an intimation that it was intended for the still. It certainly would have made any animal fed upon it sick; and any brandy made from it would have contained a predominant flavor of the essence of mould, among a multitude of other uncanny ingredients. But supposing it to have been considered as useless refuse, it is impossible to imagine that any practicable amount of hand picking by ordinary workmen could have even approximately segregated the clean grapes from those that were more or less attacked by the several fermentations. In using grapes so contaminated for wine making at all, the maker incurs so great a risk of producing a wine liable to all kinds of diseases after it leaves his hands, as no business man selling goods of his manufacture can safely or fairly carry.

On entering the winery building, a strong acetous odor at once assailed the nostrils; the provision for ventilation was very scanty and thus a distinct musty flavor was superadded. Large tanks of the olden time, holding from 6000 to 8000 gallons formed the main portion of the fermenting caskage and the acetous odor proceeded from those in which red wine was being made, as well as from others whose contents were intended for distillation. The pomace which was just being removed from one of the tanks after drawing off the piquet had not only a strong vinegary taint, but also that peculiar valeriano butyric odor so intensely suggestive of milk-sourness, and it contained a great many mouldy grape skins.

In view of these observed facts, it cannot but be strongly suspected that the conclusions as to the nature of well made wines of the locality, based upon the outcome of such practice would be very unsafe, for while some of the wines might remain perfectly sound even under the apparent neglect of the usual precautions, yet many would undoubtedly have suffered, and it would be very difficult to discriminate between them, or come to an intelligent judgment upon the general subject. I could not help making this mental reservation during a subsequent tasting of some of the older wines of the establishment, in several of which the same faults that will inevitably be found in the past seasons' wines, were clearly apparent.

While the above three points must be considered the most important factors in the production of wines absolutely unsound, it will be proper to consider in this connection some of the points in the general policy of wine-making in California, that should be clearly kept in view.

If what I have stated at the beginning of this report be admitted, viz: that the wines of California must in the main seek their market outside of the State, and must therefore be adapted to shipment to long distances; then it follows that, if we adopt the wine-making processes of Southern France, Spain, Portugal and Italy, we must adopt the all but universal practice of fortifying export wines. If on the contrary we wish, in our climate, to produce also wines similar to those of Bordeaux and northward to the Moselle, we must of necessity so vary our practice that with grapes of a more or less Southern character we may nevertheless be able to impart the characters of the cooler climates to our products. To this end we must distinctly deviate, in some respects, from the exact practice of either the Southern or Northern region of Europe.

Our wine-makers should be made to distinctly understand these differences, arising from the management of fermentation nearly as much as from the character of the grapes used. While some of these latter as E. G. the Malvoisie, cannot safely form an ingredient of any dry wine, and others, like the Burger and (apparently) the Mondeuse, will stand unharmed any reasonable amount of stress; yet the great majority will depend upon their mode of fermentation for their claim to greater or less stability under favorable influences; and hence the destination of the product should be definitely considered when handling it. Of the numerous grape varieties now being naturalized in California from all parts of the earth's vine-growing belt, each one yields its commercially known product not

merely by virtue of its intrinsic qualities, but largely as the result of certain methods of treatment to which it is habitually subjected, and among which the mode of fermentation is doubtless the most important; Southern countries have, by a natural process of selection, adopted those varieties which yield desirable results with the rapid fermentation which is the natural outcome of the high temperature prevailing at the vintage season; while Northern countries, as naturally, have chosen prevalently those grape varieties that yield the best results under slow fermentation, upon the maintenance of which the peculiarities of their products largely depend. If then we desire to reproduce the wines of other countries exactly, we must adopt not only their grape varieties but also their methods of treatment in fermentation especially. A different treatment may produce wines intrinsically good, but after all resembling only remotely the type it was intended to duplicate. It will not, then, do to prescribe uniform conditions and methods of fermentation for all alike. When a Riesling must be rushed through a four or five days fermentation under the influence of a hot September in the Napa Valley, it is no wonder that its relationship to the product of Johannisberg is scarcely suspected; while, had the fermentation been carried out in one of the cool rock cellars, its true nature would as surely have been revealed.

It is clear then, that our winemakers must learn to keep clearly in mind, not only the grape variety they have in hand, but also the use they expect to make of it, from the very outset. And wine merchants in disposing of their purchases in blends or otherwise, should also distinctly understand how such wines have been made and to what extent they can be trusted for shipment to a distance. There can be no doubt that the failure to pay attention to such points as these is responsible for a great deal of the reproach that has been brought upon California wines by their "going wrong" in the hands of purchasers abroad, and there can be none that, however difficult it may seem to make the practice conform to these considerations, established by all previous experience, yet it is eminently incumbent upon us to do all in our power to make these matters understood as soon as possible. Even in the old world the proper discrimination in these respects is far from being fully established among the winemakers at large, and a great deal of faulty wine is brought into commerce from districts noted for the excellence of a portion of their product. This is largely because of the extreme difficulty of overcoming the predilection for the practices of the forefathers. For that very reason, it is the more important that we, in the beginnings of the formation of our practice, should not blindly follow the practices of any one particular country, but consider, with our eyes open, the teachings of the best experience of all countries, especially as elucidated by the systematic observations of the several European experiment stations. That with our great diversity of climates and the great variety of grapes already introduced, we stand in the most urgent need of similar systematic work in order to avoid widespread costly mistakes, hardly needs discussion.

It has been said, by way of comfort to beginners, that winemaking is, after all, an easy thing, which can be done by any one with a few casks and a little common sense. It is quite true that something that will pass for wine, for a while at least, can be so made, and also that, where a certain practice with certain materials has long been established, any one can make good wine by following exactly the established rule-of-thumb. But no such state of things exists in California, and it is not safe to persuade the public that it will take no more than the above outfit to make wines that will find profitable sale, from the indefinite materials found in our vineyards. More than this, it is not well to allow the inexperienced winemaker to make, on "common-sense" principles, wine that will bring him 15 cents per gallon, when, if properly instructed, he might have obtained double that price.

Very respectfully,

E. W. HILGARD.

Berkeley, May 9, 1885.

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QUESTIONS

Relating to Winemaking in California.

Report of Professor E. W. Hilgard to the State Viticultural Commission, together with Critical Comments on the part of the Commission.

OFFICE OF THE BOARD OF STATE VITICULTURAL COMMISSIONERS.
SAN FRANCISCO, May 21, 1885.

The accompanying report on "Studies on Wine Fermentation," made by Professor E. W. Hilgard of the State University to Mr. Arpad Haraszthy, President of the State Viticultural Commission and filed in this office, is submitted to the public on account of the importance of the questions discussed and to give a timely opportunity for a careful consideration of the criticisms contained therein and for further investigation of propositions advanced that may be subject to differences of opinion among experts. A large portion of the report is devoted to the discussion of time honored rules of practical vinification, well understood by all intelligent wine-makers of experience, but most valuable at the present time to beginners in the art of wine-making. The chief causes of imperfections in wines are set forth as the results of careless violations of the practical rules of the "forefathers" of older lands and of the pioneers of the industry in this State, viz: careless picking and unclean apparatus, excessive size (particularly depth) of fermenting tanks, and want of care in excluding contact of the atmosphere with the fermenting mass. Other causes of imperfect fermentation are no doubt open to discussion and explanation. Considerable attention has been also given by the Professor to questions relating to the construction of cellars, the effects of temperature upon fermentation and mechanical methods of treating must, before and during

wine making. In this part of his work, there is much debatable ground owing to the incompleteness of scientific research, imperfections in skill of operatives whose methods may thereby suffer from criticism, and want of general knowledge of practical rules, well understood in countries where the art has attained a high state of perfection through successful experience. The discussions that will grow out of the criticisms and propositions contained in this report and others of similar character, will tend to hasten the day, when our people will become exactly informed as to the extent of scientific knowledge, which is available for their use and the technical information based on actual and successful experience throughout the world, that is applicable to our new industry under varying circumstances.

Professor Hilgard's opinions, as shown by this report and by his remarks made at the last State Viticultural Convention, indicate his preference for a certain line of methods for improvements in practical vinification, based upon control of temperature in the fermenting room, and *slow fermentation*, the control and nursing of the activity of the fermenting germs being otherwise not considered, or deemed of secondary importance with respect to the skill of the operator. This direction of proposed reforms involves, of course, well known and undisputed principles of mechanical appliances, with some relatively unimportant questions at issue relating to the advantages obtained by different mechanical methods of treating musts, such as crushing, or not crushing the fruit, aeration before fermentation, etc.

The Chief Executive Officer of this Commission has advanced an opinion which looks towards improvements, based mainly upon the revelations of scientific research into the life habits and physiology of the different germs of fermentation, the control of such germs with a view of directing, or restraining their energies, and prompt, steady vinous fermentation—as rapid as a condition of health may permit, the controlling of the *exact degree* of temperature within the range of healthful action being considered of secondary importance in practical and economical work. In this State the general average conditions of temperature, during vintage season being within the limit recognized as favorable for fermentation, the difficulty of maintaining a reasonably good control for practical success does not assume primary importance in the consideration of rules for wine-mak-

ing, although some protection against extraordinary changes of temperature during wine making should be provided,—the more complete the better. He holds, however, to the opinion that our climate in many places is unfavorable to the constant and sure development of germs of ferment upon the fruit and that in all parts more or less difficulty sometimes occurs, due to climatic and atmospheric influences such as desiccating north winds, sudden frosts, etc., which may kill, or render the germs inactive, at the time the wine-maker commences his operations, and that in some cases, where excessive saccharine impedes complete fermentation a languid development of yeast at the start is to be feared as conducive to imperfect results. He has observed that the chief complaints of imperfect fermentation are most noticeable in those parts of the State, where other manifestations of fermentation, such as the rotting of vegetation, and the analogous phenomena of putrefaction are shown by experience to be the least prompt. He does not wish however to be understood as not recognizing the great importance of controlling temperature in the cellars where young wines are being matured.

As an illustration, Professor Hilgard refers to certain rebellious musts, treated in his laboratory, viz: those of the *Mourisco Branco* and the *Malmsey*, one of which would not enter upon vinous, but went into the mannite fermentation, and the other, "fermented but so slowly that it acetified almost as fast as the alcohol was formed." These varieties, he says, "should doubtless have been fermented some ten or fifteen degrees higher, in order to go through safely." Likewise he attributes the cause of certain diseased fermentations at Folsom solely to the want of a properly constructed cellar and absence of control of the temperature.

The Executive Officer of the Commission on the other hand would suggest that the failure of the *Mourisco Branco* to enter upon vinous fermentation, under conditions of temperature favorable to other varieties of must, indicated the absence of active, healthy vinous germs in the must at the start, which should have been supplied in order to prevent by their activity the development of the diseased condition, which resulted in the conversion of the sugar into mannite, during the formation of which it was too late to attempt to restore a healthy normal action; otherwise the fault must have been in the absence of proper food for the vinous germ, when the remedy might possibly have been in the addition of a certain percentage of water, or albumen or other known germ food, which careful analysis of the must might reveal.

With respect to the *Malmsey* and its languid mixed vinous and acetous fermentation, the facts would indicate a want of energy at the start on the part of the vinous germs, which should have been supplied and which would have prevented the development of the acetic, the presence of the latter being probably due to some unclean-

liness of the apparatus, the bad condition of the grapes, when crushed, or some carelessness on the part of the operator, in introducing unclean fermenting must as yeast, etc. He would point to frequent well known experiences, which tend to show that certain climatic conditions during, or subsequent to the picking of grapes, before crushing, affect the activity and healthfulness of germs, whether by destroying them, rendering them torpid, or otherwise, which possible accidents may be provided against by the carefulness of the wine-maker in supplying the necessary contingents of fermenting organisms, which are after all the only real wine-makers. With respect to the diseased Folsom wines, which he also had examined and previously reported upon to the proprietor, he would, while lamenting the want of a well constructed cellar sufficient for the control of temperature against unusual and violent changes, counsel that the fault was mainly with the wine-maker, who undertook to ferment out twenty-eight per cent of sugar from *Zinfandel* must contrary to the rule of experience in this State, and with the proprietor who gave instructions not to pick the fruit until it was as ripe as possible; that the practical remedy would have been in the addition of water to the must to reduce the degree of sugar to at least twenty-four per cent, and the addition of vinous germs, if local experience indicated the necessity, and, that with even imperfect fermenting rooms he might have been practically sure of securing a perfectly sound wine, although he might subsequently suffer from want of a proper cellar for keeping it in good condition.

He would also venture an opinion that even twenty-eight per cent of sugar in *Zinfandel* might be thoroughly fermented out and sound wine be produced by fermenting in very low vats, with the aid of an abundant supply of vinous germs—the true wine yeast, germ food if necessary, frequent and thorough stirring of the fermenting mass, the wine being left on the pomace after it became quiet until it would draw off clear and bright from the spigot and the top being protected from acetic fermentation by a light cover placed thereon before acetic fermentation had ceased—excess of carbonic acid gas passing off through a pipe with its nose immersed in water. As to the quality of such an alcoholic product, he would not pass judgment without seeing the same, but would caution the proprietor against picking over-ripe grapes as a general rule for claret wines.

These opinions of one, as industrious and earnest in the cause of viticulture as the Professor himself and equally well informed as to the experience of wine-makers throughout the world and in the literature of the industry, indicate that there are divergent lines of study in viticultural work which may each produce important results of practical advantage, ultimately harmonious, and that no one of them deserves to be snubbed, as has been attempted by the Professor, by any contemptuous allu-

sion to the simplicity with which they are proposed for public consideration, even though a "little common sense" should be weighed in the scales against undemonstrated propositions.

The discussion of the so-called "Morel" process, which is only a modification of a well-known method practiced in some of the cellars of France is interesting, but the Professor has yet to report upon its success at St. Helena, where it was first introduced in California, the wines produced by it being now daily served upon some of the most fastidious tables in this city. He will also have an opportunity to investigate the merits of wines produced experimentally in the Livermore Valley by the same method, modified by the removal of the stems before fermentation. We have generally understood that the grapes of the *Pinot* family which makes fine Burgundies, are so heavily charged with fermentescible properties that that the wines are, unless well fermented on the skins, seeds and even stems, easily affected by motion and changes of climate, the usual remedy for this fault in trade, being to fortify them before exportation with heavy strong and durable wines of the south of France, a region where slow fermentation is not talked of but where every effort is made to promote active, prompt and complete vinous development.

The reference to the wines of the south of Spain must awaken some divergent discussion, for it is well known that many of the finest sherries are transported, if not mixed with sweetening wines, with facility without fortification as well as also some of the Clarets of Rioja; the same also being true of the Hermitage and Cote-Roti and other noted wines of the south of France. Dr. Guyot refers to the superior qualities of the wines made near Nies, one of the chief features of which is that, while possessing very fine quality and transportability they ferment rapidly. Common opinion has generally attributed the transportable weaknesses of certain Spanish and Southern wines to the imperfect qualities of certain varieties of grapes and also to a condition of over ripeness of the fruit, when picked, while recognizing the durability and good quality of wines made in the same districts under similar circumstances of such varieties as the *Petite Syrah*, *Mataro*, *Cabernet*, etc. It appears doubtful therefore, whether the doctrine of slow fermentation, controlled only by the regulation of temperature, as the only means of producing fine durable wines, is supported by reference to the wines of Southern Europe.

It is probably true that to produce certain peculiar qualities, desired for certain types of wines, slow fermentation may be a desideratum, but it does not appear clear that fine qualities and durability are to be destroyed by judiciously managed, prompt and vigorous action.

M. A. DeVergnette Lamotte in his work, entitled *Le vin*, sums up French experience with reference to the value of prompt commencement of fermentation as follows: (translated)

"A fact very worthy of remark and recognized in all vine districts is that good fermentations are prompt in commencement." (*Instantances*).

These comments are presented to the public, together with the Professor's valuable report, in order that the many competent men among us may be stimulated with the spirit of inquiry and investigation towards rapid solutions of the most important questions that necessarily underlie all theories of practical vinification and cellar construction and control.

In a short time, the Commission will publish also the report of Professor Rising, the Professor of chemistry at the University and State Analyst, which it is understood will be devoted to strictly scientific discussions, free from debatable questions of practice.

When the experimental cellar work, provided for by the last Legislature to be under the joint direction of this Commission and the State University, shall have been put into operation, wine-makers throughout the State will have an opportunity of testing, by practical observations, many methods of disputed merits. Clearly defined differences of opinion will assist the public in forming conclusions as to the results that may be obtained.

CHARLES A. WETMORE,

Chief Executive Viticultural Officer.

REPORT ON

"Studies on Wine Fermentation."

Made to the State Board of Viticulture by E. W. Hilgard.

Arpad Haraszthy, Esq., President State Board of Viticultural Commissioners, San Francisco.

DEAR SIR:—In accordance with the agreement made with your Board last season, I have devoted the latter portion of the summer vacation, and the whole of the October recess of the University to excursions to various viticultural districts, for the study of methods of fermentation used in wine-making, together with the appliances therefor, in order to ascertain the causes of the frequent "turning," milk-sourness, and other diseases of our wines, that injure their quality, keeping properties and market value. I have continued the same line of study in connection with the fermentations made in the viticultural laboratory at the University, and in the chemical investigations of various damaged wines. Of course the subject, as you are aware, is a very wide one, and will require years for its measurably complete investigation; but some results of very direct bearing upon practice can even now be definitely stated and are herewith given so far as they have fallen under my personal observation. I leave to my colleague, Professor Rising, the more detailed presentation of his personal researches on the nature of the improper fermentations investigated by him, as well as of such general points as have come under his observation in my absence.

The points visited by me are the following:

During the first week of August, 1884, the Natoma W. & M. Company's establishment at Folsom; and the following week, the neighborhood of St. Helena, Rutherford and Oakville, Napa County, and thereafter, the wine cellars in the neighborhood of Glen Ellen, Sonoma County. These visits were made in company with Professor Rising. During the October recess, when the vintage was in full progress, I visited, alone, the establishment of Mr. Charles Lefranc, and of J. B. J. Portal, in the Santa Clara Valley; and subsequently the more important wineries in the Fresno region. I present first the facts as noted, and thereafter a discussion of the conclusions to be gathered from them.

At Folsom, we found the building that has been used as a winery to be a mere shell, with scarcely a show of an attempt for the maintenance of a uniform temperature; while at the same time the fermenting tanks were very large. Two kinds of wine of the previous season's vintage were still on hand; of these, a claret made from mixed grapes was extremely faulty, being both acetified and milk-sour; the other, a white wine, fortified, was not quite so bad, but still had evidently suffered from the same causes as the claret, and both were only fit for the still. In consequence of this and previous similar experience the company had given up the building in question altogether as a winery, expecting to build a new one in a different location, and to sell the current season's grapes to other parties, apart from those which were subsequently sent to the viticultural laboratory to be made into wine experimentally.

This case would have been an excellent instance of the effects of high temperature fermentation with exposure to cold nights and warm days. But unfortunately the samples promised were not received; and I should here state that the difficulty of procuring samples having an authentic history has been a serious obstacle throughout, so that we are not able to report results as definite as, had this been otherwise, they could readily have been. The question: "Have you had any cases of difficult fermentation, or milk-sour, or otherwise sick wines," was almost habitually answered in the negative, and that in many cases in which such wines were known to have come

from the hands of the person answering. In part this doubtless proceeded from ignorance, but there was too often an evident indisposition to admit the existence of any such difficulties at all, despite our definite statement that individual cases were not intended for publication, but that we only desired a knowledge of the disease in order to devise and recommend a remedy. You are aware that I afterwards pointedly stated these facts in public, at the Viticultural Convention held in December. I earnestly hope that this unfortunate and unnecessary impediment in the way of this important line of inquiry will hereafter be done away with by a more general and enlightened understanding of the need, objects and methods of such investigations.

On our visit to the Napa Valley we found on the whole a very fair understanding of the need and conditions of a good fermentation. Apart from the rock cellars of the Bro's Beringer and of Schramm, the wineries of Thomann, Crabb, Pellet, Scheffler and others show from fair to good provisions for the control of temperature both during first and second fermentation, by the use of double board walls and roofs, as well as partitions impeding the excessive ingress of the outer temperature. We noted that special precautions in these respects were being introduced in making the changes in the large winery of Mr. Krug, then being prepared for the use of the Napa Valley Wine Company. We found in one cellar a package of red wine graphically designated by the proprietor as "the stink," but which was being used with relish by the workmen on the place. It was a very fair sample of milk-sourness, but it was not very sensibly acetified; and I note that in general, precautions against the latter source of damage seem to be taken more effectually in the St. Helena region than elsewhere. The proprietor was not able to give its precise history, but attributed its condition to, most probably, the unsound condition of grapes during the latter part of the previous season's vintage, brought about by the untimely rains. A good many grapes had burst and subsequently become water-sodden, affording abundant opportunities for the development of improper fermentations in the vineyard itself. Under such circumstances only very especial care in the handling of the crop could insure the production of sound wines.

From St. Helena we crossed Sonoma mountain to Glen Ellen, making the vineyard of Mr. J. H. Drummond, unfortunately, on a day when he was absent. We however had an opportunity to examine his winery, and noted that he has wisely discarded the large 8000-gallon tanks of the olden time for the small 2000-gallon ones now generally coming into use. We noted that the building was still quite imperfectly secured against the influence of change of temperature, or of the excessive temperature sometimes prevailing in the Sonoma valley during vintage time; but understand that he intends to change all that, and build a suitable fermenting house and cellar, as soon as possible. A smaller cellar was at the time, in course of construction. The general excellence of the wines shown by him at the Viticultural Convention proved how far good management and scrupulous care may make up for defective arrangements.

The cellars of Mrs. Warfield and Mrs. Stuart were practically empty at the time and little could be seen in respect to the actual management. At one winery, however, there was one 80-gallon cask of wine that had failed to go through its fermentation, and had been transferred from the cellar to the upper floor in order to start it again by increased temperature. A slight action was going on, but from the taste of the wine I inferred that it was rather on the way to the mannite condition than to that of a sound dry wine. Here, again, no clue to the history of the obstinate cask could be obtained.

My visit to the Santa Clara valley was made early in October, when, the season being very late, the vintage was still under full headway, and at some wineries, as at Mr. Lefranc's, only just begun in earnest. I found at the latter place that the only grape that had been crushed thus far was the Malbeck, and that had just completed its first fermentation; the murk had a splendid deep color, and seemed thoroughly sound, while showing to a marked degree

the peculiarities of the Malbeck in taste and flavor. I noted that Mr. Lefranc, though fermenting without a swimming cover, grating to keep the pomace submerged, leaves empty an unusually large space above the pomace and keeps the tanks closely covered, so as to keep in the carbonic acid gas and prevent acetification as much as possible; also that he is very prompt in drawing off the murk upon the cessation of fermentation, his object being to utilize the pomace for Piquet, to be distilled or drank by the men on the place, the case may be; the product being, of course better for either use on account of the prompt handling, which gives little opportunity for acetification, or other incipient decomposition. Mr. Lefranc also takes care to agitate the pomace several times during the fermentation, by hand, with proper stirrers; but he crushes by means of a cylinder crusher.

While Mr. Lefranc's fermenting arrangements do not afford all the security against change or excessive elevation of temperature that would be desirable in a climate much more extreme in the latter respect than is the case in France during vintage time, yet his close supervision and promptness with which the several operations are performed at the proper time seem to afford reasonable security against any serious trouble. Mr. Lefranc said that difficulties occasionally arose from his inability to secure workmen to do things just at the right time. I found his winery (constituting a somewhat straggling arrangement of buildings) kept very clean and without any scent of acetification. He also directed his pickers to exercise judgment in their work, leaving unripe and unsound bunches on the vines for a special picking, and here he does no sorting before the crusher; but he complains that the pickers do not act fully in accord with his instructions which could be desired.

On the following day I visited Mr. Portal's vineyard and winery. Here the grapes seemed to have ripened somewhat earlier than at Lefranc's, and the crushing was nearly over, the quantity having been small as yet. Mr. Portal's winery is, on the whole, well planned with respect to convenience and the maintenance of a uniform temperature, with double plank walls above ground; the tank room well protected, and the cellar for storage and after-fermentation a "demi-souterrain" with good provision against change of temperature. With such arrangements and careful management, excellent results should be obtained.

At Mr. John T. Doyle's winery, visited on a previous occasion, both the arrangements and the management seemed to be a rational and careful character. But as the establishment was not seen in motion, I reserve farther comments for another occasion.

Throughout my experience in Northern California, within the last few years, I have been favorably struck with the cleanliness generally observed in the vintage operations. The dangers arising from the use of vessels not properly cleaned or purified seems to be much more generally appreciated than is the case in many of the European wine-making countries, especially in the South.

A four days' visit to the Fresno district also during the October recess of the University, concluded my field work for the season. By the courtesy of Mr. Egger, who placed his time and team at my disposal, I was enabled to see comfortably, in this short time, the working of the chief wineries of the region, where the vintage was in active progress.

A most notable change that struck me once as having occurred since my visit three years before, was the rank growth of tall weeds that has sprung up in and near the colonies wherever the ground is left uncultivated, showing by their kind and rankness the fact that permanent moisture now lies within easy reach of their roots. A low ground the surface even is moist at some distance from irrigation ditches; in short the whole country seems to have filled up with water from below, the previous soil allowing of easy percolation. This cannot be regarded as altogether a welcome phenomenon in a vine-growing district; for since in the sandy soils the water does not rise spontaneously to a great height, it indicates the proximity of bottom water to the surface; a state of things that cannot but be very detrimental to the quality

the product, especially in the case of wines. At the Eisen vineyard the water was actually almost at the surface in some of the lower ground, with a most disastrous effect not only upon the grapes, which were molden and sodden, but also upon the vines themselves, which looked sickly and watery. The same effect already appears at other points, and as the irrigation ditches multiply, the question of lowering the water level so as not to allow the vines to have "wet feet" will become a very serious one. It is a problem that requires solution in all irrigation countries, but it is more especially important in the Fresno region because the sandy soil is not intrinsically very rich in plant food, but allows the roots to go to great depths and thus make up by the extent of their penetration for the relatively low supply. If this compensation is cut off by the rise of bottom water, the effect will be that the few feet of soil to which the grape roots are confined will soon need to be fertilized artificially in order to maintain production.

An examination of the arrangements for and conduct of fermentation at Eggers' establishment showed them to be well devised and carefully attended, although in ordinary seasons probably the elevation of the temperature, and its changes from day to night, might still be greater than would be desirable. The pomace is here kept submerged by false heads or frames held down by conveniently arranged elements, and the drawing off of the muck is done with reasonable promptness after the subsidence of the violent fermentation; the latter was this year completed in from seven to nine days. The determinations of acetic acid in Mr. Eggers' Zinfandels, given below, show that in comparison with other dry red wines from the region the amount of acetification was very light. Yet in view of the high temperature usual during the vintage, this is undoubtedly a point needing very especial attention in Fresno, and which is not as yet fully appreciated by the winemakers. The fermenting vats in the Eggers winery are throughout of moderate size—1,900 to 2,100 gallons, such as is specially called for in a region where a too rapid fermentation is likely to be the standing drawback upon the production of well-keeping and high-bouquet wines.

The establishment of the Fresno Vineyard Company is also on the whole well arranged and managed with due regard to the difficulties imposed by the local climate, so far as the process of first fermentation is concerned; although the wooden buildings naturally fail to afford all the proper conditions for undisturbed after-fermentation, which in Fresno could hardly be fully realized outside of very substantial adobe or stone buildings; cellars being rendered precarious by the continued rise of the bottom water. In the absence of such cellars, the plan now largely under consideration, to transfer the Fresno vintage to large storage cellars within the temperate Bay climate as soon as feasible, seems highly commendable; for under existing arrangements, we probably have scarcely yet seen a Fresno wine of as good quality as the nature of the climate and material permit.

I noted here with pleasure that some care was exercised in regard to the selection of the grapes as they were passed up on the apron, to the crushers; the process not being pressed so much as not to enable a careful person to pick out at least the bad cases of unripe, decaying or mouldy grapes, as each box was being emptied. The same was done at Eggers' winery, where a table placed under the apron allowed of a previous sorting. This is manifestly one of the chief points wherein less care is likely to be exercised in large wineries than in smaller ones, where the pressure for time is not usually so great. There can be no doubt that a large proportion of the faults of our wines, both in respect to taste and keeping qualities, is due to the large amount of germs of improper fermentations introduced into the vats through mouldy or otherwise unsound grapes. This is very often obvious to the taste so far as mould is concerned; yet the mould germs are not the most objectionable in so far as they at least bring about an alcoholic fermentation, although they cannot carry it very far. But with the mould there too often come also the ready formed germs of the lacto-butyrac and vinous fermentations that may, for

the time being, be rendered inactive by stormy fermentation, but are liable to be called into activity whenever, during the after fermentation or subsequently, a rise of temperature offers the proper conditions; and they remain a standing menace to the keeping qualities of the wine, to be overcome only by the "pasteurizing" process of heating. So with the germs of the mucous fermentation, which are but too commonly introduced with the grapes that have suffered from wet weather and when broken between the fingers will often exhibit their slimy or "ropy" conditions to the most casual observer. A wine contaminated with such material may, with good care and proper handling, develop and keep fairly well; but in case of any neglect, or a spell of unfavorable weather during shipment or temporary storage, the inimical germs may find their opportunity for development, and thus, what seemed, and for all present purposes was, a perfectly sound wine at shipment may become utterly worthless in the hands of the purchaser or consumer. Some notes of markedly improper management in this respect are given in part second of this report.

One winery visited, and with considerable attention to details, was one in which there is a departure from the usual practice of making red wines, in the adoption of that which prevails more or less in the Burgundy districts of France, and which was advocated and introduced here, as well as originally at Mr. Scheffers' near St. Helena, by the late Mr. Morel. The handsome main building in external appearance resembles a brewery, having the ventilation in the roof intended, or certainly calculated to produce, a very rapid and free circulation of air. Inside we find the building as lofty and airy as promised by the outside appearance; no upper floor, but all open under the roof, and the fermenting tanks in long rows on a low platform on the ground floor. Into these the grapes are at once dumped from the wagons without previous stemming or crushing; these objects being accomplished gradually by a daily or twice daily working with wooden stirrers provided with pegs projecting crosswise, and thus, in the course of time, pretty sure to crush, or at least open, all the grapes that have attained the proper degree of ripeness, while leaving whole those not sufficiently ripe, as well as those that have by any means been damaged and dried up.

This survival of the unfit through all the pounding with the stirrers is claimed as one of the advantages of this method, as against the hand-picking that would otherwise be necessary in order to avoid the introduction of such improper material into the wine; and inspection of the pomace showed that to a considerable extent this claim is well founded.

The chief claim, however, is that by this system of gradual crushing, the fermentation is kept under control, preventing any undue rise of temperature, and hence, a too rapid fermentation in the tanks. The process can, in fact, be made to last for weeks in this manner, and thus a complete extraction of the color and tannin seems assured.

While that much can be admitted in favor of the process there are serious objections to it both from the theoretical and practical standpoints.

In the first place, it is well known that the wines of Burgundy and the adjacent regions, where this method of fermentation prevails, will not bear transportation well, as a rule. This would be a capital objection to California wines, which must in the main look to an Eastern or foreign market. That wines fermented thus are not likely to be good keepers is apparent, when we consider the most ordinary rules current among winemakers elsewhere. A regular, uninterrupted fermentation is always commented upon as being one of the prime needs for the production of a sound, and well-keeping and shipping wine. It is even considered bad practice to introduce any fresh must into a previous day's crushing or pressing, and except in cases of necessity, no one will think of mixing fresh must with wine that is nearly or quite through its fermentation. Now, this is precisely what is currently done in the "Morel process," (as this method is usually designated at Fresno), for, every day fresh must is mixed with the partially fermented product of all the previous days. More-

over, each portion so added is carried very rapidly through its fermentation by the overwhelmingly large mass of fermenting wine with which it comes in contact; and here again, one of the conditions conducive to good keeping, viz: *slow fermentation*, is violated. Again, there is a limit to the time during which it is desirable that the wine should be in contact with the pomace and more especially with the stems, always introduced in this method, when wines of fine quality are to be produced. Such long maceration presupposes a very clean and perfect material, if serious defects of taste are not to be felt in the wine.

Such are some of the most obvious defects of this method from the points of view observed in almost all winemaking countries, as well as from that of experience. It has equally serious drawbacks in its actual practice, unless that practice is a very careful one. First of all, the long exposure of the mash to air, under the very slow disengagement of carbonic acid gas that, with the twice-daily disturbance fails to form an adequate protective covering, inevitably results in the greater or less acetification of the same. In consequence of the frequent removal of the surface, this fact does not become as obvious to the senses as is the case when the "hat" is left undisturbed, the same portions being in that case long exposed and becoming very much soured. But the failure to perceive the effect of the air does not show that it does not exist to a serious extent; and it will inevitably appear in the wine. That this is actually the case is apparent from the analyses given below, as well as from the tasting of the wine.

It is true that this effect could be measurably obviated by covering the tanks with a "floating" cover after each stirring. But the arrangements necessary for doing this conveniently are quite elaborate, and as a matter of fact nothing of the kind is done. Hence, notwithstanding the excellent ventilation in the building, a decided acetous odor was perceptible, and was especially unmistakable in the tanks themselves.

Considering all these objections it must be held that the "Morel method" of making red wines would be admissible only in case it should be shown that it offered advantages of great moment not to be attained by the usual method of crushing and fermentation, whether as to quality or cost of the product.

I do not think that any such advantages can be shown to exist.

The first claim, viz.: that it effects a material saving in the cost of the plant and operation for crushing, cannot be maintained so as to show any material gain. It is a well recognized fact that for the finer qualities of wine, the introduction of the stems of the grape is as a rule inadmissible; in any case, facilities for stemming *must* be provided, for a large number of cases. But the apparatus and power needed for the stemming does, or can be made to, simultaneously effect the crushing also without any perceptible addition to the cost. The rotary stemmers and crushers, moreover, effect to a great extent the same discrimination against the crushing of unripe and half-dried grapes, as that which is made by the hand crushing with stirrers used in the "Morel process." The same is not true, at least as regards the unripe grapes, in the case of roller crushers; and it equally fails when, as is too frequently done, the rotary crusher is run at an *excessive speed*, actually cutting the grape skins to pieces. But any one observing the action of that machine carefully, can note the fact that for each grape variety the speed can be so regulated as to crush only the properly ripened berries. This effectually disposes of any claim to advantage on this score for the "Morel system." The argument relating to cost of plant, however, turns rather against this system when we consider the inadmissibility of the uncovered surface of the tanks or mash under the hot atmosphere of Fresno, in which acetification assumes rapidity unknown in more temperate regions. Considering the fact that the protecting covering of carbonic acid gas is destroyed every time the mash is agitated as thoroughly as it must be in order to effect the proper breaking of the grape berries, nothing short of covers resting on the surface of the mash itself could adequately prevent acetification. This renders necessary for the production of sound red wines by this process, the employment of floating cov-

ers which must be effectually hoisted out of the way of the stirrers each time the latter are used—twice a day, according to usage. This necessitates not only special appliances and much labor, but also a very high, clear space above; far more than is called for when the mash is agitated a few times during the fermentation for the sole purpose of favoring the extraction of the hulls and the equalization of the temperature in the vat.

As the claim that it permits of accomplishing slow fermentation even during the heated term of a Fresno vintage, this also is in a great measure an illusion. It is true that the undue rise of temperature can thus be avoided, especially if the excessive ventilation now adopted be restrained. But for all that, the successive portions of must are each rushed through fermentation very rapidly, thus preventing the chemical reactions which, during a *truly* slow fermentation, lay the foundation of the fine aromas or bouquet subsequently developed. At Fresno, as elsewhere, the remedy for the effects of the prevailing high temperature during the vintage season must, as regards fermentation, be sought in the proper protection of the fermenting rooms, in the use of moderate-sized vats, and the avoidance of the crushing of grapes brought from the vineyard at a high temperature. Due attention to the latter point alone would be sufficient in many cases, to restrain the violence of the fermentation within the limits required for the production of the class of wines to which the Fresno climate naturally lends itself most readily.

It is not easy to see what advantage is to be gained by the extravagant provisions made for ventilation in the building, that practically puts the fermenting tanks out of doors. Purity of air in a winery is certainly desirable, and is in reality more important than is usually supposed. But there is no need of so much circulation that the air surrounding the tanks ceases to warn the attendants of the state of the things inside.

ANALYSES OF FRESNO CLARETS 1884.

NAME.	ALCOHOL.		BODY.	TANNIN.	ACID.		TOTAL.	ASH.
	By weight.	By volume.			Other than Acetic (Tartaric).	Acetic.		
Claret 1883, Morel Process.	9.56	12.10	3.37	.232	.504	.166	.600	.483
Zinfandel 1884, Morel process.	9.34	11.64	3.34	.121	.395	.077	.472	.400
Zinfandel 1884, No. 2.	9.86	11.90	3.00	.334	.607	.041	.648	.271
Eggers stemmed and crushed.	10.03	13.55	3.00	.256			.558	.338
Zinfandel, No. 9, Eggers pure pressed wine, '84, stemmed and crushed.								

The above analyses, made by Mr. Geo. E. Colby, show strikingly the effects of the "Morel process" of fermentation at Fresno. The volatile acids (chiefly acetic) are in the "Morel process" claret, nearly twice as high as in Eggers of the same year, while the "Morel" of the previous very warm year shows nearly four times as much. Other interesting points in the above analyses are the very large amount of ash in the "Morel" clarets, resulting from the complete extraction of the skins, which nevertheless did not yield as much tannin as Eggers. Again, the press wine, No. 9 shows a higher alcohol percentage than No. 2, which represents the "whole" wine, showing that in the pressing, unfermented sweet juice was set free and then fermented out; while, contrary to the usual supposition, the acid of the press wine is lower than that of the "whole" wine.

GENERAL CONCLUSIONS.

As a summing up of the chief causes of imperfections in our wine, as connected

with the present practice of wine-making, the following statement might be made:

1.—WANT OF CARE IN RESPECT TO THE EXCLUSION OF UNSOUND GRAPES FROM THE CRUSHING PROCESS.

This cause is especially potent with respect to red wines, in the manufacture of which the wine remains in contact with the pomace for so great a length of time, that the germs of the several different fermentations will have time to contaminate the product to a very considerable extent before the drawing off, and thus form a standing menace against the keeping and improvement of the wine, unless the latter is "sterilized" by the pasteur process of heating.

This cause is of course controllable by reasonable care in the picking out of imperfect bunches before crushing, whether in the field, as is commonly done in Europe or on a table in which each box of grapes is emptied before passing on the apron or stemmer. The rejected bunches will, according to the value of the grape variety be either again picked over, or consigned to the still as a whole. But if a batch of wine has been made from unsound grapes, it should be kept in mind that it is liable to disease and that to use it in blending is to leaven the whole mass of the blend with dangerous germs. This undoubtedly constitutes one of the greatest dangers threatening the reputation of our wines abroad.

2.—EXCESSIVE RISE OF TEMPERATURE DURING THE VIOLENT FERMENTATION.

Whereby the true wine yeast is either seriously checked in its development or at times entirely killed, so that the wine cannot be fermented dry without the addition of fresh yeast, and, sometimes, of fresh material for its formation. There can be no doubt that this has been one of the most prominent causes of unsound and half fermented wines in the early times, when the large tanks were in general use. It is undoubtedly still a frequent cause of imperfect fermentations in the hotter portions of the State, or in particularly hot vintage seasons. It is too commonly supposed that when a temperature of a fermenting tank has risen high, with stormy fermentation, which then subsides quickly that the fermentation is happily over in a short time; whereas it may simply have been stopped by the killing or at least weakening of the yeast by the excessive rise of temperature. Again, such rise, while checking the vinous fermentation, will in the presence of other germs, derived from unsound grapes, favor the development of the lacto-butyric fermentation, which may not perhaps proceed very far for the time being in consequence of the cooling down of the tank, but will ultimately, on the occurrence of favorable conditions, take its course and definitively spoil the product for all but the still.

The same conditions occur to a greater or less extent whenever the formation of a "hat" is permitted, in which often times the hand will find an almost uncomfortable temperature. A certain proportion of the wine is thus subjected to undesirable influences in many respects, as is more fully stated below.

3.—UNDUE ACCESS OF AIR, ALLOWING OF PARTIAL ACETIFICATION.

This is by far the commonest fault of California wines as found in the market, and especially so in the red wines. Even a casual inspection of the manner in which the fermentation of these is mostly conducted explains the cause. Almost throughout we find that the objectionable "hat" is allowed to form in the tanks, which but too often are left without any cover whatsoever. If this is considered an objectionable practice in countries where the temperature of the vintage time is such that from 10 to 17 days elapse before the cessation of active fermentation, how much more fatal must it become to the wine's soundness where the temperature of the air is actually that which is purposely maintained in vinegar factories in order to promote the most rapid conversion of the alcohol into acetic acid. It is true that in the first stages of fermentation the rapid evolution of carbonic acid gas affords a protecting cover; but so soon as the violence of action subsides, the unhindered access of the outer air with its varying temperature soon destroys the efficacy of that protection, and I have seen cases in which

the heat in the "hat" was evidently being maintained quite as much by the rapid oxidation of the alcoholic vapor, rising from below into acetic acid, as from the direct effect of the fermentation. When afterwards the vat remains untouched until the pomace sinks of its own accord, or when even the otherwise desirable practice of agitating a mash is performed under such circumstances, the conditions for the formation of vinegar are the most favorable, and it is no wonder that the wine becomes incurably tainted with the acetic ferment.

I have seen in many otherwise very well arranged winery tanks, long past fermentation, in which the "hat" had sunk to the bottom and was replaced by a whitish scum that had formed on the surface, while a decidedly acetous odor filled the empty part beneath the loose cover. It is vain to expect that such methods of work should result in a sound wine, no matter how perfect that appliance may be; and it can not be forgotten by those who tasted the wines exhibited at the late Viticultural Convention, that among those made from fine grape varieties there were many whose acetous taint completely spoiled and overshadowed their otherwise excellent qualities.

There can be no doubt that both with a view to the safety of the wine and the full extraction of the color and tannin from the grape skins, either the formation of the "hat" ought to be wholly avoided in our climate, by the introduction of one or several false bottoms to keep the pomace submerged; or else that the access of air be prevented by the simpler expedient of "floating covers," leaving only a narrow space around their edge for the escape of the gas. The latter expedient is, of course, a compromise; as, while it does not prevent the formation of the "hat" it renders it innocuous so far as acetification is concerned by preventing the access of air, and allows of the stirring needed for the full or prompt extraction of the color and tannin, when the cover (formed of halves) is raised out of the way.

The use of these "floating" covers allows us to dispense with the full-size covers for the tanks that are needed even when the latticed false-bottoms are used, if there is to be any delay in the drawing off; for the narrow annular space around the cover resting on the "hat" allows so little access of air that a reasonable delay in drawing off is of little consequence.

It is presumable that those who take so little heed of the danger of acetification as to allow it during fermentation, will not exercise all due care when it comes to the after treatment and ullage. But it is worthy of mention in this connection, that, owing to the presence of a large contingent of the acetic ferment in such wines, they are very much more liable to farther damage, and most commonly get their full share of it.

As an illustration of the above three points in practice, I present the record made of a visit to a winery in which, at the time, at least, all the rules for the production of sound wines were flagrantly sinned against—happily an altogether an exceptional case, yet resulting in an unjust prejudice against the capabilities of the whole neighborhood for the production of wine.

Around the lower end of the crusher apron stood scores of boxes filled with grapes in all stages of mouldiness and rotteness, unfit for any use whatsoever, whether connected with wine making or distilling. Among them could be found samples of all kinds of fermentation—vinous, generally far gone into the acetic; viscous, the grapes drawing out into long slimy threads when pulled apart; lacto-butyric, soft and smelling of cheese; no end of moulds of several kinds, black, green, and white. In the absence of the proprietor, I did not care to press the inquiry as to what was going to be done with the material before me, but received an intimation that it was intended for the still. It certainly would have made any animal fed upon it sick; and any brandy made from it would have contained a predominant flavor of the essence of mould, among a multitude of other uncanny ingredients. But supposing it to have been considered as useless refuse, it is impossible to imagine that any practicable amount of hand picking by ordinary workmen could have even approximately segregated the clean grapes from those that

were more or less attacked by the several fermentations. In using grapes so contaminated for wine making at all, the maker incurs so great a risk of producing a wine liable to all kinds of diseases after it leaves his hands, as no business man selling goods of his manufacture can safely or fairly carry.

On entering the winery building, a strong acetous odor at once assailed the nostrils; the provision for ventilation was very scanty and thus a distinct musty flavor was superadded. Large tanks of the olden time, holding from 6000 to 8000 gallons, formed the main portion of the fermenting caskage; and the acetous odor proceeded from those in which red wine was being made, as well as from others whose contents were intended for distillation. The pomace which was just being removed from one of the tanks after drawing off the piquet had not only a strong vinegary taint, but also that peculiar valerianic—butyric odor so intensely suggestive of milk-sourness, and it contained a great many mouldy grape skins.

In view of these observed facts, it cannot but be strongly suspected that the conclusions as to the nature of well made wines of the locality, based upon the outcome of such practice, would be very unsafe, for while some of the wines might remain perfectly sound even under the apparent neglect of the usual precautions, yet many would undoubtedly have suffered, and it would be very difficult to discriminate between them, or come to an intelligent judgment upon the general subject. I could not help making this mental reservation during a subsequent tasting of some of the older wines of the establishment, in several of which the same faults that will inevitably be found in the past seasons' wines, were clearly apparent.

While the above three points must be considered the most important factors in the production of wines absolutely unsound, it will be proper to consider in this connection some of the points in the general policy of wine-making in California, that should be clearly kept in view.

If what I have stated at the beginning of this report be admitted, viz: that the wines of California must in the main seek their market outside of the State, and must therefore be adapted to shipment to long distances; then it follows that, if we adopt the wine-making processes of Southern France, Spain, Portugal and Italy, we must adopt the all but universal practice of fortifying export wines. If on the contrary we wish, in our climate, to produce also wines similar to those of Bordeaux and northward to the Moselle, we must of necessity so vary our practice so that with grapes of a more or less Southern character we may nevertheless be able to impart the characters of the cooler climates to our products. To this end we must distinctly deviate, in some respects, from the exact practice of either the Southern or Northern region of Europe.

It is well understood all over the world that, other things being equal, a wine that has rushed through even a complete fermentation in the course of a few days, while developing rapidly, will be a poor keeper. On the contrary, wines that have passed through a slow but regular fermentation at a relatively low temperature, will, while developing more slowly, assume a higher bouquet and be relatively sturdy keepers under the stresses of transportation and changes of temperature.

Our wine-makers should be made to distinctly understand these differences, arising from the management of fermentation nearly as much as from the character of the grapes used. While some of these latter as e. g. the Malvoisie, cannot safely form an ingredient of any dry wine, and others, like the Burger and (apparently) the Mousseuse, will stand unharmed any reasonable amount of stress; yet the great majority will depend upon their mode of fermentation for their claim to greater or less stability under unfavorable influences; and hence the destination of the product should be definitely considered when handling it. Of the numerous grape varieties now being naturalized in California from all parts of the earth's vine-growing belt, each one yields its commercially known product not merely by virtue of its intrinsic qualities, but largely as the result of certain methods of treatment to which it is habitually subjected, and among which the mode of fer-

mentation is doubtless the most important. Southern countries have, by a natural process, of selection, adopted those varieties which yield desirable results with the rapid fermentation which is the natural outcome of the high temperature prevailing at the vintage season; while Northern countries, as naturally, have chosen prevalently those grape varieties that yield the best results under slow fermentation, upon the maintenance of which the peculiarities of their products largely depend. If then we desire to reproduce the wines of other countries exactly, we must adopt not only their grape varieties but also their methods of treatment in fermentation especially. A different treatment may produce wines intrinsically good, but after all resembling only remotely the type it was intended to duplicate. It will not, then, do to prescribe uniform conditions and methods of fermentation for all alike. When a Riesling must is rushed through a four or five days fermentation under the influence of a hot September in the Napa Valley, it is no wonder that its relationship to the product of Johannisberg is scarcely suspected; while, had the fermentation been carried out in one of the cool rock cellars, its true nature would as surely have been revealed. There can be no doubt, on the other hand, that for some grape varieties slow fermentation is as a rule unsuitable, and that we would vainly try to make a dry wine of sturdy keeping qualities out of many of the southern grapes by the slow fermentation which in the case of the Riesling and Bordeaux varieties would be eminently successful in that direction. Striking instances of this kind have come under my observation in the late experimental work on the grapes furnished by the Natomas Company, of which, for example, one (the Mourisco Branco), absolutely refused to ferment at all at the temperature steadily and successfully maintained for the Bordeaux grapes; it went into the "Mannito" fermentation despite repeated efforts to start it in the right direction by the addition of fresh fermenting must of other grapes. Another, (the Malmsey), kept under precisely the same conditions, fermented, but so slowly that it became acetified almost as fast as the alcohol was formed, and went wholly wrong. Both of these were Spanish varieties, and should doubtless have been fermented some 10 or 15 degrees higher in order to go through safely. All the while, the Cabernets and other more Northern varieties went through their fermentation most successfully, right alongside.

It is clear then, that our winemakers must learn to keep clearly in mind, not only the grape variety they have in hand, but also the use they expect to make of it, from the very outset. He who cannot, for want of the proper appliances, ferment his wines under such conditions as to insure their keeping and shipping qualities, should use such grape varieties as will yield the best results under such circumstances; while those who have rock cellars or well protected fermenting houses, will have the opportunity of producing wines suitable for shipment by the slower and well guarded fermentation of grapes suitable for that particular purpose. And wine merchants, in disposing of their purchases in blends or otherwise, should also distinctly understand how such wines have been made and to what extent they can be trusted for shipment to a distance. There can be no doubt that the failure to pay attention to such points as these is responsible for a great deal of the reproach that has been brought upon California wines by their "going wrong" in the hands of purchasers abroad, and there can be none that, however difficult it may seem to make the practice conform to these considerations, established by all previous experience, yet it is eminently incumbent upon us to do all in our power to make these matters understood as soon as possible. Even in the old world the proper discrimination in these respects is far from being fully established among the winemakers at large, and a great deal of faulty wine is brought into commerce from districts noted for the excellence of a portion of their product. This is largely because of the extreme difficulty of overcoming the predilection for the practices of the forefathers. For that very reason, it is the more important that we, in the beginnings of the formation of our practice, should not blindly follow the practices of any one particular

country, but consider, with our eyes open, the teachings of the best experience of all countries, especially as elucidated by the systematic observations of the several European experiment stations. That with our great diversity of climates and the great variety of grapes already introduced, we stand in the most urgent need of similar systematic work in order to avoid widespread costly mistakes, hardly needs discussion.

It has been said, by way of comfort to beginners, that winemaking is, after all, an easy thing, which can be done by any one with a few casks and a little common sense. It is quite true that something that will pass for wine, for a while at least, can be so made, and also that, where a certain practice with certain materials has long been established, any one can make good wine by following exactly the established rule-of-thumb. But no such state of things exists in California, and it is not safe to persuade the public that it will take no more than the above outfit to make wines that will find profitable sale, from the indefinite materials found in our vineyards. More than this, it is not well to allow the inexperienced winemaker to make, on "common-sense" principles, wine that will bring him 15 cents per gallon, when, if properly instructed, he might have obtained double that price. All should understand that wine-making is an art, to be learned as other arts are, by practice and study, if the best results are to be obtained from a given material. It is for the purpose of enabling all (to placing such results within the reach of all concerned), that State aid has been granted so freely, for experimentation in viticulture and the diffusion of the knowledge thus elicited.

Professor Rising will give you the detailed discussion of the results of the chemical examination of unsound wines, that has been in progress in our laboratories during the past session. It is however idle to expect that the extremely complex problems involved can be solved by a few analyses. However necessary as links in the chain of evidence, they can be fruitful only in connection with the actually known history of the samples under examination. In this respect all those furnished us heretofore have been deficient; and it will be necessary for us to try, under our own eyes, by what circumstances certain faults can be produced in different grape varieties. With this view, I propose to so subdivide the new cellar, soon to be constructed, as to enable us to observe the musts from the same grapes, grown the same season, under conditions purposely and definitely so varied as to show the effects of various causes calculated to produce unsoundness. This is obviously the shortest way to arrive at perfectly definite results on this difficult question.

Very respectfully,
E. W. HILGARD,
Berkeley, May 9, 1885.

PROFESSOR HILGARD'S REPLY TO THE CRITICISMS OF THE COMMISSION.

EDITOR MERCHANT: As Mr. Wetmore has made his criticisms on my report a preface to the same, I claim the privilege of adding a brief reply as a supplement.

First, as to the direction given to my observations and discussions, I remark that since temperature is known to be the governing condition in all the fermentations, it was naturally and of necessity the first matter to be attended to, being fundamental. And, the assertion to the contrary notwithstanding, I claim it to be of primary importance here as elsewhere. Pasteur's well-known researches have shown that at times, and in certain regions, a deficiency of the germs of vinous fermentation occurs; but it is well established that this is the exception; and how this recondite subject could have been made by me a matter of observation or useful consideration in the field, at this early period of our work, I leave Mr. Wetmore to explain.

Referring to the illustrations given by me, of rebellious musts from Folsom, Mr.

Wetmore's theory that the trouble arose from lack of germs on the grapes, will hardly stand the test of the fact that said grapes were grown in single rows among the thirty-eight other varieties, all of which had perfect fermentation. I fully agree to the propriety of starting fermentation of the must as promptly as possible by the introduction of active germs; but, with the winemakers of the old world, I always prefer to use for the purpose some must already in fermentation, rather than brewer's or any other yeast from outside sources. The experimental nature of our work at the University rendered the addition of any other actively fermenting must at the outset, inexpedient; and when in the case of the Mourisco Branco such addition was made several days after crushing, it proved ineffectual, the mannite fermentation having probably already taken precedence. Possibly also there was a lack of yeast-forming ingredients, but there could be no lack of yeast germs. A simple experiment this season will determine the point, and teach definitely how to bring about the proper fermentation.

Deferring for a future occasion the discussion of some minor points, I remark as regards the "Morel process" of making red wines, that Mr. Wetmore does not stand alone in his knowledge of what wines are produced by its aid in France, and have been made at Mr. Scheffler's winery under the proper conditions. But, the latter have not been maintained or regarded at the Fresno establishment, whether as to the varieties of grapes used, or other needful precautions; and under the conditions now existing in California in respect to untaught labor, wholesale methods of work and promiscuous practice, added to the climatic obstacles, I consider a farther extension of the system as undesirable, and liable to injure the reputation of California wines in the world's market.

If, as Mr. Wetmore's concluding remarks seem to imply, he or the Commission expected at my hands a report "free from debatable questions of practice," and devoted to theoretical considerations only, I can but regret and wonder that so unfortunate a selection for the purpose should have been made by them at this late date.

E. W. HILGARD.
Berkeley, May 30, 1885.

A REJOINDER.

EDITOR MERCHANT:—Your favor, containing a proof of Prof. Hilgard's comments on certain published criticisms of his work, has been received. I do not desire to cause useless discussions of questions that should be carefully considered, and which properly belong to official statements; but in justice to myself a few words should be said.

The suggestion was made by me, at the last State Viticultural Convention, that, in order to secure prompt and energetic action of vinous fermentation, in many cases in this State, it would be useful to supply yeast germs as soon as the grapes were crushed. This proposition was denounced as rank heresy by the Professor, who claimed that we should rely on the regulation of temperature, and that we should wait until failure of fermentation was shown before using yeast. I explained also, different methods of procuring the true vinous yeast in case of necessity, and showed, as is well known, to all who have

studied the subject, that the germs from beer yeast, as well as those from wine, well cleaned, could be used in starting must in the yeast tub or vat. Now that the Professor agrees with me that yeast may be properly used in starting a "prompt" fermentation, it is of little consequence to call attention to the fact that his present position is radically at variance with former assertions and even with the remedy he proposed for his Mourisco Branco and Malmsey must in the report which you are now publishing. This is not the first time that the Professor has profited by the aid of this Commission, and we trust that such advantages may become mutual, through the management of experimental work under the joint control of the Commission and the University, as provided for by the Legislature. I am not willing, however, that the Professor should correct himself by taking the position which I occupied and which he attacked, while at the same time he attempts, as he did also at San Jose last week, to misrepresent me in order to explain why there has been a difference of opinion. All who listened to the discussion at the last State Convention will agree with me that this last letter of the Professor's contradicts his former argument.

If the Professor will explain to me, where the germs that are supposed to exist on the grapes when picked, come from, and in what form they are found outside of actual fermentation, I will try to explain also, why one lot of grapes may be deficient in fermentative power, while others from the same place may be otherwise conditioned.

After the Professor has had further time to investigate the phenomena of fermentation in this State, he will find another reason for again agreeing with me in the assertion that the instances of a lack of fermentative activity in grapes of this State, when unaided, are very numerous instead of being exceptions.

As to the "Morel" process, I am not attempting to advocate it, as I believe it requires further study; but I did think it was wise to call the attention of the Professor to the fact that he had been basing a general condemnation of it upon an analysis of wines made in only one vineyard, under unfavorable conditions, without referring to other places in the State where it had given good satisfaction.

As there are other and more serious questions at issue between us at the present time, I prefer not to enter into a controversy concerning opinions which each of us may publicly express in such manner as our duties require, free from personalities.

Yours respectfully,
CHAS. A. WETMORE.

The first grapes of the season were received in San Francisco, on June 2nd, from Senator L. W. Buck of Vacaville. They were of the early black variety and brought \$1 per pound.

J. N. KNOWLES, MANAGER.

RAISINS.

[From the Report of the Third Annual Viticultural Convention.]

OFFICE OF WM. T. COLEMAN & Co. }
SAN FRANCISCO, May 15, 1885. }

The Editor of the "Viticultural Report" having just shown me the proof of my remarks before the last Viticultural Association, in regard to relative merits of sun dried and artificially cured raisins, and having somewhat modified my views since, in regard to one particular method of artificially curing, I think it but justice to the lady who was a pioneer in a new and untried venture, that I should place myself on record as to my ultimate decision in regard to the two methods.

I had not thoroughly looked into Miss Austin's artificially cured raisins when my remarks were made, and they were chiefly directed to half cured, over cooked, doughy, pasty, and in some instances, baked raisins that we had handled from time to time under the name of machine cured raisins. I had, and have yet a prejudice against these. But without going now into the merits of this much discussed question any further, I will say that if the raisins put up by Miss Austin could be duplicated by other machine dryers, there would be no question in any one's mind as to the desirability of artificially curing raisins. We have samples in our office to-day, of Miss Austin's output, and from the evidence of their good keeping qualities, we would not hesitate to recommend machine drying where sun drying fails to produce similar keeping qualities. Miss Austin's raisins have their bloom as fresh as the day they were put up, they have not candied at all; they are succulent, pliable to the touch, and in every way an extremely superior raisin. As I want to extend justice where justice is due you will oblige me if you will publish this communication as nearly as possible in your valuable "Report" beside my original remarks.

Yours truly,
FRANK S. JOHNSON.

The attention of vineyardists and orchardists is directed to the announcement, in another column, of the well known Arctic Oil Works who are manufacturers of every kind of oils, grease and whale oil soap that are used for the protection of fruit trees and vines.



The Best Spring Medicine and Beautifier of the Complexion in use. Cures Bolls, Pimples, Blotches, Neuralgia, Scrofula, Gout, Rheumatic and Mercurial Pains, and all Diseases arising from a disordered state of the Blood or Liver.

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THE JOINT APPROPRIATION.

The Following Correspondence Speaks for Itself.

STATE VITICULTURAL COMMISSION, }
SAN FRANCISCO, June 3, 1885.

Dr. J. H. Bonte, Secretary of the Board
of Regents, University of California :

DEAR SIR: Your favor of the 1st inst. has
been received.

The action of the Board of Regents, respecting the measures to be adopted under the provisions of the law, relating to funds for certain purposes under joint control of the State Viticultural Commission and the Board of Regents, appears to have been based on a misunderstanding of the objects of the appropriation and of the proposition made by this commission, as well as also of the terms of the law itself.

The general appropriation bill was reported last winter by the Assembly Committee on Ways and Means, containing an item of \$10,000 for a Viticultural Laboratory at Berkeley; also \$23,500 for the Department of Agriculture of the University. Of the latter sum, \$6,000 was included specially for viticultural work under the charge of the Professor of Agriculture.

The committee on Viticulture held a special meeting, with respect to these appropriations, and unanimously recommended to the committee on Ways and Means such a division of the proposed appropriations as would best subservise in their judgment the objects for which they were to be expended, viz:

First—Providing for elementary instruction, analytical work and scientific investigation at the State University:

Second—Experimental demonstrations, intended for immediate and practical uses on the part of vine growers and wine makers, including tests of different methods of vinification, practical blendings for commercial uses, and the establishment of an experimental cellar for the exhibition and comparison of practical results of native and foreign origin, for the general information of the public, under the control of the State Viticultural Commission.

The committee on Viticulture were of the opinion that such a division of the appropriation would prevent any unnecessary conflict between the work of this commission and that properly belonging to the University; and, as such conflict had already become apparent, although it had not been publicly discussed, these recommendations received the united support of those most intimately connected with viticultural pursuits in both branches of the Legislature.

The question was thereupon raised in the Committee on Ways and Means. Hon. J. F. Black of Alameda County, having served as a member of both committees is in a position to explain what happened prior to final action. The speaker of the Assembly, who is *ex-officio* a member of the Board of Regents, was made thoroughly acquainted with the question at issue and expressed his approval of the action taken by the Committee on Viticulture, especially as it related to the control of the experimental cellar.

A happy thought on the part of the representative of this commission resulted in placing the appropriation of \$10,000 under joint control of the Commission and the Regents. When asked, whether this plan would satisfy our commission, the answer was: "Yes; the Regents will no doubt ap-

point a committee of practical men, who will meet a similar committee from our commission and jointly they will direct the use of the funds for the benefit of both institutions, as intended by the Legislature. This will not interfere with the independent work of both institutions, as they have each also their independent appropriations for viticultural work."

The legislative fact is that, by a unanimous vote of the Assembly, the appropriation for a Viticultural Laboratory (so-called) at the State University was struck out, and there was inserted an item, viz: "For viticultural experimental, analytical and scientific work, together with apparatus and suitable accommodations for the same, under joint control of the Board of State Viticultural Commissioners and the Board of Regents of the State University, ten thousand dollars." This item was also without further discussion passed by the Senate and is the law under which our two Boards must act jointly.

The Legislature has, therefore, appropriated, as follows: For the Department of Agriculture of the University, \$23,500, of which \$6,000 were specifically included for viticultural work, but which sum may be increased as the Board of Regents may direct; also for the joint uses of our two institutions, \$10,000.

It remains, therefore, to be decided by us jointly, how the \$10,000 shall be expended, or how much of it is needed, for the mutual advantage of the two institutions. We know of no law, which has decided this question for us.

Our commission has proposed a plan for the joint control of this fund under the direction of two of the professors of the University and two officers of our Board, professing frankly our desire to amply sustain the analytical, scientific and instructive work at the University and suggesting only that the cellar for practical experimentation and exhibition of wines should be located in San Francisco, where it would be most accessible to the greater number of those interested in its operations. The officers of our commission are quite willing to consult and advise with your professors of chemistry and agriculture and to mutually share in the control of the experimental work to be performed for the uses of both institutions. We have not heard that your Professor of Chemistry has objected to such joint action, and, as he is now State analyst, with whom viticulturists must frequently consult, we presume that your Board must have consulted with him. It appears that your Professor of Agriculture alone objects to such an association of effort.

If your Board has understood that this commission claims that the entire \$10,000 should be expended in San Francisco, it is mistaken; we have simply claimed that San Francisco is the most accessible and convenient place for the location of the cellar, in which purely practical tests and experiments should be conducted and samples preserved for public information under management of a competent practical cellar master, who would be there ready to give practical information to those seeking it. In such a cellar, this commission, with its independent funds could also collect samples of foreign products, for public study and comparison with our own, to assist our producers and merchants in competing in the world's markets; such a place would also be a most favorable one for occasional visits of students, whenever any

present themselves to the University, which unfortunately has rarely happened thus far, for instructions in elementary principles. The cellar master and assistants appointed to the satisfaction of both institutions, would necessarily be such as could be trusted to preserve accurate records concerning experiments made, the results of which would furnish the University with authentic material for analysis and study and this commission, through the advice of practical men working with us, with substance for rules of practice to be given to the public.

It appears to us, therefore, necessary that our two Boards should agree—

First—on some plan for the joint control of this fund for mutual uses and benefits.

Second—If entire management is not delegated to certain appointed officers of both institutions, acting jointly, as proposed by this commission, then we must determine from time to time what measures may properly be adopted within the intent of the terms of the appropriation and designate the persons, who shall execute them.

Having made our proposition for the selection of officers from both institutions to direct the work, under joint control, as required by law, we most respectfully request your Board to suggest any other proposition that may seem proper and right under these circumstances.

Meanwhile, we would call your attention to the necessity of prompt action. This Board has appointed a committee with full powers to act in the premises; if your Board will do likewise, these two committees acting jointly may speedily direct the work to be done.

Although I have not yet consulted, since receiving your letter, with the committee of which I am a member, I shall take the liberty of suggesting, as a commencement of our work, if we are not to appoint officers to relieve the two Boards of details of management, that we consider first what funds are required by the State analyst, Prof. W. B. Rising, for the performance of his duties in connection with viticulture, as there is no special appropriation for his department. This commission will have, as soon as he is ready to act, from many sources, sufficient work to occupy his time considerably and he will no doubt require assistance. This will include a large part of the work to be provided for by our joint funds and should be considered immediately. Your Professor of Agriculture, having an independent appropriation, is not under such pressing necessities.

The position, which our Commission has assumed in respect to this fund, is that it is intended for our joint benefit and use; any proposition to that end will be promptly considered by us, but we cannot find in the law any intent of sole use and control by either institution. With respect to uses of a strictly scientific nature, we very naturally desire to consult your Board as to the work; as we shall also very naturally expect your Board to consult with us on questions, which we may be specially competent to consider for the public good. If there has been any want of respect for our rights in the premises on the part of the Regents, we shall believe that it has been caused by misrepresentation of the facts, which we have undertaken to make clear.

An attempt having been made through one of the journals of this State to create an impression that this Commission is unfriendly to the University, reprints of anonymous articles being now in circulation within official envelopes from Berkeley, it may possibly be of use to us both in this correspondence to call the attention of your Board to our past and continued efforts to sustain your institution and to find within it active co-operation, such as a University can properly give. As every line of law directing viticultural work at Berkeley has from first to last been written by and procured through the personal efforts of members of this commission; as we have from the first selected by preference, as assistants in our work, graduates of Berkeley; and as we have even also divided our own appropriations to assist your Professors, and continuously solicited their services, while upon every occasion seeking cause to commend their efforts, as will be seen by referring to our reports, we do not feel that we should be called upon to explain our good will, for we are yet asking

the co-operation of the University and are willing to unite in experimentation and mutual counsel.

With the ample funds, which each institution now has independently for conducting its own separate work in viticultural matters, we see no reason why obstacles should be thrown in the way of the joint control of this additional \$10,000 (\$5,000 per year), the intent of the legislature having been made so clear. If your Board desires to discuss reasons why this commission should not consent to abandon its rights with respect to the portion of the work, which has been in dispute, we shall, while we may regret the necessity, be in readiness to present our views fully, when they are called for.

Yours Respectfully,

CHAS. A. WETMORE.

Chairman of the Committee for the Viticultural Commission.

A Small Beetle.

The *Adoxis vitis*, periodically ravages the vineyards. This unwelcome visitor climbs the plants and destroys young vines by feeding on the buds. The best remedy known in France against its attacks is mustard oil cake meal which, while it destroys the larva for future years, is at the same time a good fertilizer. The high price in California, however, of this mustard oil-cake is prejudicial to its free and general use. It cannot be purchased here for less than \$40 per ton because it is sold at a good price to manufacturers of ground mustard for table use. Such is a trick of the mustard trade.

THE SEMI-ANNUAL MEETING.

The regular semi-annual meeting of the Viticultural Commission will be held next Monday, the 8th inst. At this meeting the annual election of officers will take place and other business of importance will be transacted. The chief topic of discussion will be concerning measures conceived to assist in extending the markets for our products.

Short Crops.

A Santa Rosa correspondent writes to the MERCHANT: "General crops here are very poor except fruit, which will be plentiful. Grapes will fall short fully 30 percent in this county, hops will not be over a third crop, all the white English cluster are almost a failure from present indications, but the Bavarian red hop will make an average crop."

A proposition to build a \$100,000 winery at Woodland is on foot. The party making the proposition offers to invest \$50,000 provided the people of Woodland will furnish the other \$50,000. This is certainly an opportunity which the town should not let slip, because if the other \$50,000 is not forthcoming the capital will be elsewhere invested.

A winemaker near Los Gatos has offered \$22.50 per ton for all grapes he can buy for the next vintage. The offer was gladly accepted.

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DR. HORATIO STEBBINS.

His Views on Drunkenness and its Causes.

[From the Report of the Third Annual Viticultural Convention.]

I received a polite note from your Executive Officer, Mr. Wetmore, to come here, to say something about the moral relations of your vocation as wine growers to the welfare of the State. I am sincerely interested in its future as an intelligent citizen, as a member of the community who has no vested interest in common with you. Allow me to say Mr. Chairman that I think you have done well to confess that there is a relation between your vocation and the public opinion in christendom concerning the morality of its influence. There is no doubt that there is a question and that question is having increasing importance in christendom. It is quite common to say that intoxication, excess, intemperance is increasing on the earth, but it is not so. If you contrast the country of the present generation with the past, if you go back 200 years ago, you find a vast difference. If you go back 100 years ago you find a great difference. If you go back 50 years ago you find a great difference. It is within the memory of men living, within the memory of men who sit here now that a public opinion first feebly expressed and communicated was successful in abolishing the use of highly intoxicating drinks at funerals in this country. I am speaking of the United States, California was not in existence then.

When we speak of your cause and its relation to intemperance, or excess, we speak of the presence of intoxicating drinks in all their varieties as secondary causes of intemperance.

The primary cause of intemperance is character, or want of character. Let us always settle back on that. You can have no more of a man than there is of him. It is of no use for him to stand on the balance with the weights in his pocket. It is of no use to expect conduct from any man, conduct that can be sustained and carried out that is above the level of his character. The weakness of intemperance is the weakness of will. It is want of self control. The drunkard is silly, he is weak, he is always a liar on the subject of drink.

Now when we state that, we must nevertheless take the ground firmly that the secondary cause is an important one. The secondary cause is the presence and accessibility of intoxicating drinks. There is a class of men from whom these drinks must be entirely removed, it is their only safety; but these men are children. They are to be treated as children. They are to be treated as children by their friends, and they are to be treated as children by the State. They cannot accept the ordinary discipline of life. They cannot accept life with its enjoyments and trials and make the conflict of victorious manhood. But they are exceptional cases. There are many of them, but they are exceptional still and legislation, human conduct universally, the laws of the land cannot be made with reference especially to that class. They must be taken care of. They must be taken care of by those whose immediate duty it is to take care of them.

Now recognizing this relation of your avocation think for a moment precisely how the facts lie. (Let me not traverse the ground which others may wish to occupy). I understand what you wish to consider gentlemen is the relation of your avocation to the temperate use of intoxicating drinks. To temperance, not to total abstinence. When so much respect is paid by a body of men as to ask a fellow citizen to express his opinion and when that expression of opinion is listened to with respect, I think it is the duty of every man when he gets on his feet to have an opinion and stand by it, whether it is a popular or an unpopular one. I think he should do so. Now I am not a total abstinence man. I do not believe that total abstinence is adequate to the settlement of this question of the use or sale of intoxicating drinks. I do not believe that is the kind of solution of the subject socially; or individually to a wide extent. It is individually now and then. There are many instances where that is the only rule for the individual, but it is not the rule for the State, it is not the rule for society, it is not the rule for mankind, I think. Now with us here in America—and gentlemen I hope I shall

not intrude upon you nor seem to dictate anything to your consideration, when I tell you of some of the obstacles that lay in our way and lay in your way in this matter—we have no experience in regard to the production and use of wines. We have not the experience of it socially that they have in the old world. We are to proceed upon an experiment which is different from any experiment that has yet been tried on earth. Now our American population is a conglomerate stock. We call ourselves English but we are not. The American civilization is a conglomerate. As I look over these men, whom I see here, I see countenances from different nations, countenances from different climes, countenances from different suns, brought up under different manners and different customs, who come here, and we all are here, as American citizens. This is a conglomerate stock. Now there are men of foreign stock who are satisfied with mild drinks, but the fact is gentlemen, that the average American drinker wants strong drinks. To use the phrase of the gutter and saloon the average American drinker wants something "that kills at 40 rods." Now that is a degrading fact gentlemen, and you propose as wine growers to go in and pour gushing floods of wine over this country so that it flows in rivers of beauty and grace; you propose to do it for the class of men who thus far want whisky. Now what prospects have you of success. That the subject of gross intemperance is now engaging the mind of christendom as it never has been, there can be no question, in my mind, to well informed men. There is now a growing public opinion in regard to intemperance. It is an opinion that deferentiates, if I may so use the crooked word, each year more and more; which, while it protects the rights of individuals, nevertheless protects society, and protects the feeble from hurt and the body politic from wrong. Now one of the greatest wrongs is that inflicted upon it by intoxication, by intemperance. There are 2,286 drinking places in this city. That is one to every 19 voters. Now there is not one of those places, as it now exists that is not a burden to society; that does not hang upon society, upon its bleeding flanks, worrying and tearing its sensibilities, increasing its expenses, rolling up a dark list of crime, and bearing down domestic life into degradation and misery. Now there is an increasing feeling that society will not endure these wrongs, that it will not carry them. I do not propose to discuss any of the questions of legislation that is not my province now, but it is a fair question for you to meet. It is going to be under discussion. My office is to preach, you know that is my habit, and I never see you, this is the only chance I have at you, and let me urge you in the discussion that is coming on—the discussion on temperance, to be temperate and not have any intemperate discussion. Let those who think differently from us state their case fairly; let us state ours fairly, let us not get red in the face, but let us be well informed, let us have our facts and our own general theory of human nature and human character. Everyone of you, who is a wine grower, ought to be a temperate man. You ought to take that stand and go for regulation and restriction of the sale of intoxicating drinks. We have this flood in this city; what ought we to have here? We ought for one thing to have it restricted. We ought not to have over 50 drinking places in this city, apothecary shops extra. Then again if we consider the influence that that would have on society, and the attempt to supplant this passion for a strong drink by a mild drink—that can only be proven in a lifetime, a generation. It is the vocation of a generation. Some of us think that you can try social experiments as quickly as you can experiments on a horse. Some of you that are horse breeders know that it only takes three or four years to try a different strain in a stock, but not so with human experience—the longer, growing experience. Even as the diamond has been formed by thousands of years pressure under crystallizations of the earth, so is the human mind a production of the divine intelligent will, and it cannot be handled this summer; it cannot be handled in a month, it takes a lifetime to make a great impression on the mind of man. No idea can ingraft its influence so well on the mind of the coming generation. We must work it out on the generation to come.

OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO.'S STR. COLIMA, JUNE 2, 1885.

TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS.	VALUE.
E B & J, New York	Lachman & Jacobi	100 barrels Wine	4853	\$ 1705
O F, New York	"	2 kegs Wine	741	415
A V, New York	"	15 barrels Wine	1250	536
F A, New York	"	25 barrels Wine	1245	503
A, in diamond, New York	"	12 barrels Wine	595	266
G R, Hoboken	"	10 barrels Wine	500	208
C, in diamond, New York	"	10 barrels Wine	503	264
C N, New York	"	10 barrels Wine	498	335
S, in diamond, New York	J Gundlach & Co.	34 puncheons Wine	5338	3736
F, in diamond, New York	"	10 barrels Brandy	419	1047
X, New York	"	28 puncheons Wine	4353	1958
A H, New York	"	4 half barrels Wine	104	83
L, in diamond, New York	"	1 barrel Wine	50	35
A B & Co, New York	Walter, Schilling & Co	14 barrels Wine	667	400
N & D, Albany, New York	Arpad Haraszthy & Co	2 half barrels Brandy	50	112
B D & Co, New York	B Dreyfus & Co.	2 barrels Wine	96	48
J M, New York	"	5 half barrels Brandy	126	245
S Bros, New York	"	1 barrel Wine	48	36
M G Malinan, Newark	"	262 barrels Wine	12241	4820
F, in diamond, New York	S Lachman & Co.	10 barrels Wine	474	180
B, in diamond, New York	"	25 barrels Wine	1229	550
"	"	4 barrels Wine	198	100
"	"	25 barrels Wine	1185	475
"	"	11 barrels Wine	630	360
"	"	4 half barrels Wine	5	7
"	"	1 case Wine	236	95
R, in diamond, New York	"	5 barrels Wine	236	118
F J B S, New York	"	1 barrel Brandy	24	54
T M, Boston	Dresel & Co	2 barrels Wine	100	45
K & F, New York	Kohler & Frohling	110 barrels Wine	5281	2550
A V Co, New York	Walter, Schilling & Co	11, casks Wine	2837	1418
G S Graham, Pittsburg	"	60 barrels Wine	81	81
Total amount of Wine			45569	\$21332
Total amount of Brandy			610	1459

TO CENTRAL AMERICA.

J N, Acajutla	Urruela & Urioste	2 barrels Wine	67	69
"	"	4 cases Wine	20	16
T P, Guatemala	B Dreyfus & Co.	14 cases Wine	70	70
"	"	2 barrels Whiskey		30
P L y Co	"	2 barrels Wine	126	170
Guatemala	"	1 half barrel Wine		10
"	"	1 case Brandy	30	22
M F S, Acajutla	John T Wright	6 cases Wine	96	54
M B, Punta Arenas	Horace Davis & Co.	2 barrels Port Wine	49	30
"	"	1 barrel Sherry Wine	48	37
"	"	1 barrel Malaga Wine	47	38
A Merv, Champerico	S Lachman & Co.	1 barrel Wine	20	16
L & G, San Jose de Guatemala	Schwartz Bros.	4 packages Whiskey	80	80
T B, Acajutla	F Daneri & Co.	10 kegs Wine	45	122
H G, San Jose de Guatemala	Bingham & Pinto	1 barrel Whiskey	100	120
J R, Punta Arenas	"	3 barrels Wine		
Total amount of Wine			763	\$722
Total amount of Brandy, 1 case				10
Total amount of Whiskey, 2 cases, 4 packages and			45	260

TO MEXICO.

B F & Co, Acapulco	W Loalza	2 barrels Claret	95	43
P D & Co, Acapulco	"	2 casks Wine	118	46
F M, Acapulco	"	30 cases Wine	150	61
E C, Acapulco	A Merle	10 baskets Champagne		84
P O, Acapulco	Moller, Mantz & Co.	3 barrels Wine	60	60
"	"	4 cases Wine	23	25
Total amount of Wine			443	\$319
Total amount of Champagne, 10 baskets				84

TO BREMEN.

Walter, Schilling & Co	2 kegs Wine	44	36
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MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	RIG.	GALLONS.	VALUE.
Honolulu	Cousuelo	Brig.	550	\$ 428
Victoria	Queen of the Pacific	Steamer	174	205
Mazatlan	Parmonia	Schooner	132	90
Chins	City of Rio de Janeiro	Steamer	90	141
Japan	City of Rio de Janeiro	Steamer	423	302
Victoria	Wilmington	Steamer	48	14
New York	Sterling (brandy)	Ship	55	200
New York	Sterling (wine)	Ship	6680	4205
Kahului	Ida Schnauer	Schooner	20	20
Tahiti	Tahiti	Brig.	591	349
Honolulu	Mariposa	Steamer	567	414
Japan	City of Tokio	Steamer	245	145
Total shipments by Panama steamers			47,483 gallons,	\$24,222
Total shipments by other routes			9,575 "	6,513
Grand totals			57,058	\$30,735

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 SAN JOSE, Santa Clara Co.....E. B. LEWIS
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 SONOMA.....JOHN R. ROBINSON
 STOCKTON.....WM. H. ROBINSON
 ST. HELENA.....E. A. BRUCK, News Agent
 WINDSOR, Sonoma Co.....LINDSAY & WELCH
 WOODLAND, Yolo Co.....E. BERG
 HONOLULU.....J. M. OAT, Jr. & Co

FRIDAY.....JUNE 5, 1885

RECOGNITION.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.

Proprietor S. F. MERCHANT. — Dear Sir: Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.

Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural interest in the State, an exponent of their views and able advocate of their interests, and, moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished.

Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandises who wish to call our attention to their goods, aid us and other Viticulturalists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.

Be it further resolved that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.

G. F. RIGGS, SECRETARY.

GOOD NEWS FOR WINEMAKERS.

The winemakers of California will be interested and glad to learn that the well-known and old established house of Wm. T. Coleman & Co. have decided to enter extensively into the California wine business. In an interview with Mr. Frank S. Johnson on the subject, that gentleman told us that they proposed simply to act as agents for the winemakers whose goods would be shipped to different points of consumption and sold on their own merits, in the packages in which they are consigned to his house. There would thus be no danger of adulteration or doctoring, and the consumer would receive our wines in their pure state. This would tend to urge our producers to the manufacture of the best possible goods; because, being sold under their own labels and as made, the demand for an inferior article would decrease while the better quality would of course meet with greater and continued demand. Messrs. Wm. T. Coleman & Co. propose to ship the wines consigned to them by rail and will push the business through the medium of their numerous well-known agencies in the Union. Their success in handling raisins, the kindred industry to wines, augurs well for future success in their new venture. Our winemakers are to be congratulated that this leading house is prepared to enter extensively into the wine business and assist in the disposal of our vintages.

AT SAN JOSE.

THE DISTRICT VITICULTURAL CONVENTION.

Summary of the Principal Points in the Proceedings—Success of the Discussions in French.

In answer to the call of the Commissioner for the San Francisco Viticultural District to hold a Convention at San Jose on the 27th, 28th and 29th of May a large number of gentlemen interested in the commerce and industries dependent upon viticulture assembled at the city of San Jose to attend the Convention. Among those present during the three days were: From San Jose and vicinity: The Hon. J. W. Cook, J. B. J. Portal and wife, Captain J. Chamon de St. Hubert and wife, Mr. Rothermel, W. H. Brundridge, G. Daggett, J. J. Bowen, F. Dunn, R. Butcher, ex-Mayor Martin, L. D. Combe and wife, T. Maurin, J. L. Heald, Hon. C. T. Ryland, M. J. Haines, Mr. King of the Santa Clara Agricultural Association, L. H. Pollard, Charles LeFranc, Mr. Brassy, F. Sourisseau, P. de Saisset, R. T. Pierce, Santa Clara; J. Wright, J. L. Reidy, Hon. John T. Doyle, Cupertino; Wm. Pfeffer, R. C. Stillar, Mr. Bub, Guberville; A. Flamant, Mons. Bustelli, Napa; F. Pohndorff, St Helena; Dr. Bernard, F. L. Fowler, Jesse Bowles, Wm. Wright, Hon. J. F. Black and wife, George Bruck, and J. Mortier, Livermore; D. C. Feeley, Patchin; W. B. Rankin and wife, Alma; Chas. Shillaber of the Cordelia Wine Company; E. H. Rixford, Arpad Haraszthy, C. Anduran, George Johnson, San Francisco. J. H. Wheeler, Secretary, and Clarence Wetmore, Assistant Secretary of the State Viticultural Commission, Chas. A. Wetmore, Chief Executive Officer of the State Viticultural Commission, and Mrs. Chas. A. Wetmore. Wm. Palmtag, Holtister; Geo. A. Cowles and wife and Henry Mel, San Diego; Senator Routier, Sacramento; Charles Weber, Stockton; Chas. Deto, Mountain View; John L. Beard, Alvarado; Dr. Stewart, Santa Cruz; W. Etehell, Vallejo; E. B. Smith, Martinez; Dr. Stillman, San Bernardino; J. W. Kottinger, Pleasanton; M. M. Estec, Napa; Professors Rising and Hilgard of the State University; F. W. Morse; J. J. Montalegre, John Gallejos, Mr. McIver and Mr. Mosser, Mission San Jose; F. H. McCullagh, B. F. Bachman, Los Gatos; L. H. Wakefield, San Francisco. Mr. E. H. Rixford, author of the "Wine Press and Cellar" was Secretary of the Convention, and, owing to his familiarity with the subject matters discussed, a complete and concise report of the proceedings can be depended upon. This report will be published in full in the MERCHANT at an early day. The discussions in French have been reported in full for the *Courier de San Francisco* by Captain J. Chamon de St. Hubert and will also be translated into English by that gentleman for the MERCHANT.

There were on exhibition 203 samples of wine from different parts of the State and of foreign importation. A catalogue of these has been printed and will be published with the report of the committee of experts. The wines from the San Francisco district were particularly interesting and showed themselves very promising.

Wednesday, May 27th.

The Morning Session was devoted to the testing of samples of foreign wines, the committee of experts taking notes for their future report.

The Afternoon Session was opened by the

Commissioner for the San Francisco District, Chas. A. Wetmore, presiding officer, who called the meeting to order shortly after 1 p. m. When the formal business of the Convention commenced Mr. Wetmore read the objects of the Session and paid a high tribute of respect to the work of his predecessor, Arpad Haraszthy, to which this gentleman gracefully replied. Remarks followed by J. B. J. Portal, Chas. A. Wetmore, Arpad Haraszthy, Wm. Pfeffer, Wm. Palmtag and Mr. Mel and the session closed at 5 p. m.

The Evening Session in French was a most decided success, those taking part becoming most eloquent and interested. Mr. Wetmore made a few remarks in French and appointed the Hon. J. Routier as Chairman of the evening. Mons. Routier opened with a short address and was followed by Mons. Flamant and Mons. Mortier. A letter was then read from A. G. Chauchs, after which Captain J. Chamon de St. Hubert read an article on the phylloxera, its origin and ravages in France, and the manufacture of different types of wine. J. B. J. Portal followed with a few remarks, after which Mons. Flamant read a paper on the grafting of resistant stocks. The meeting closed at 11:30 p. m., and as it was in every way a pronounced success, the experiment is worth trying again in other languages, such as German and Italian.

Thursday, May 28th.

The morning session was devoted to the testing of samples of California wine, chiefly from the San Francisco District, and of last vintage. In the afternoon, Hon. M. M. Estee made some remarks, and Hon. J. T. Doyle followed with questions of interest to all, and also gave his first experience in winemaking. Professors Rising and Hilgard discussed the subject of fermentation, for which they received a vote of thanks.

The evening session commenced at 8 p. m., with an interesting paper read by Mr. F. Pohndorff, and the remainder of the evening was passed in general discussion.

Friday, May 29th.

The testing of wines and brandies was again resumed at the morning session, and continued during the latter part of the afternoon session.

During the first part of the afternoon session questions of vital importance to winemakers were discussed, and many different views on "What to do With Our Increasing Vintages?" "How to Stop Adulteration?" "Are the San Francisco Merchants Treating the Winemakers Fairly?" were given. Every speaker seemed to have a different idea, but the feeling of being the injured parties was very strong among the Santa Clara valley residents.

As the phylloxera was said to exist in the valley, and more especially in the Auzeais vineyard, a committee of five was appointed to accompany Mr. F. W. Morse to examine into the matter. In the evening this committee presented, after some discussion among themselves, their report to the President as follows:

"We, a committee appointed this afternoon to visit the Auzeais vineyard, make the report as follows: Mr. Morse took us in all directions in the vineyard, showed and designated by the committee, dug into the ground and found the phylloxera adhering to the roots and stalks of the vines in every instance, even on the young and vigorous vines grafted last year and this year. Although the vines are apparently

in good health, the phylloxera is now existing on the old trunks and roots of the scions. We easily discovered half a dozen infected spots by the appearance of the leaves which were slightly yellowish and of short growth. The vines apparently not attacked are strong and vigorous and loaded with fruit. As the facilities for irrigation found in the vineyard are good, your committee thinks that the spreading of phylloxera could be checked at a comparatively small cost. We enclose specimens of the healthy stock of the aphidian."

Remarks followed by Dr. Bernard, Mr. Rixford and others, after which the Convention adjourned.

There were on exhibition, besides the wines mentioned in the catalogue, the model of a wine press patented and made by Mr. Worth, at his foundry in Petaluma; a model of a crusher and stemmer, the property of Mr. Sainsevain of San Jose; a box of raisins made by G. A. Cowles of San Diego, and samples of the Heminway grape cutter.

Specimens of phylloxera in its different stages were placed under the microscope and examined by numbers who acknowledged that they had never previously seen the insect, and all were greatly interested in watching its movements and the thousands of eggs.

CALIFORNIA WINE SHIPMENTS.

THE MERCHANT gives to-day the shipments of California wines by sea, for the month of May, 1885. The total aggregates 105,091 gallons, of the value of \$55,240, being an increase of 13,862 gallons, of the value of \$4,848 over the shipments by sea for the month of April. The average monthly shipments by sea for the year 1884 being 97,948 gallons, consequently last month's shipments show an increase of 7,143 gallons as compared with the average monthly sea shipments of 1884. As compared with the average sea shipments for the first quarter of this year, our exports of California wines for the month of May show a gain of 4,126 gallons. In shipments by other routes than the Panama line of steamers, Honolulu receives nearly three times as much as any other port, and more than the total amount shipped to Victoria, Mexico, Japan, China and Tahiti. With the increased price of sugar—the staple product of the Hawaiian Kingdom—and consequent increased prosperity of our Island friends, we may look to a still further development of this trade. The figures for the sea shipments, during the month of May, stand thus:

BY SEA, MAY 1885.		
To—	Gallons.	Value.
Honolulu	1,902	\$1,610
Victoria, B. C.....	663	650
Mexico.....	512	410
Japan.....	236	181
China.....	145	145
Tahiti.....	97	158
	3,555	\$3,154
By Panama line of steamers.....	101,536	\$52,086
Total.....	105,091	\$54,240

Chris Buckley has bought 60 acres of land adjoining Hon. J. F. Black's vineyard near Livermore, which he intends to improve this summer. A \$15,000 residence will be put up first, after which 40 acres will be planted in choice vines. Piece by piece the land in this valley is being bought up, and now that it still sells comparatively cheap, bringing, unimproved, \$100 per acre, is the time to invest.

A MISTAKE.

We publish this week a copy of a letter addressed by the Chairman of the Committee of Conference of the Viticultural Commission to the Secretary of the Board of Regents of the University. This publicity given to a matter that will no doubt be settled amicably has been forced by the recent action of Prof. Hilgard in issuing officially from the University, together with his Bulletin No. 39, a reprint of an editorial taken from the *Rural Press*, the editor of which is an assistant lecturer in Prof. Hilgard's Department. We respect Mr. Wickson's attainments and ability in the line of his own work, but we are quite sure that he has not sufficiently and fairly considered the question involved in the joint control of the fund appropriated for the uses of the University and the Commission. To say that Prof. Hilgard's action, in officially disseminating the unjust criticisms of the *Rural Press*, directed against the Viticultural Commission, is as unprofessional as his recent report on baking powders, published as an advertisement in the *Chronicle*, is saying the least that could be said of it.

The simple fact is that the Professor's Department of Agriculture at Berkeley has been provided with ample funds for his independent use in viticultural as well as other matters, and that the disputed \$10,000 is an additional sum intended by the very words of the law for the joint uses of the University and the Commission. The Professor of Chemistry has really more interest in deciding how this fund shall be controlled, than the Professor of Agriculture; up to this time we have heard nothing to indicate that Prof. Rising is dissatisfied with the work of the Commission, or that the latter does not intend to concede to him all that his office as State Analyst may require to perform efficiently analytical work—work, which has not heretofore been done as thoroughly as needed. There should be no difficulty between the two institutions in deciding how to use most beneficially their joint fund, and we do not believe that there will be.

Since, however, the editor of the *Rural Press*, in the article now circulated by Prof. Hilgard, places so much stress upon the action of the last State Viticultural Convention, but which does not necessarily control this question, we refer to the photographic report of the proceedings, recently published by the MERCHANT.

The true history of the action of the Convention, is as follows: Prof. Hilgard expressed a desire to procure more facilities for work to be conducted under joint control with the Commission and so explained himself to President Haraszthy privately. With this understanding the question was broached by him and Mr. Haraszthy as will be seen by referring to page 36. That there was some vagueness in the Professor's words, as there was afterwards in his final resolution, is more apparent now than it was at that time. Subsequently a resolution for the appointment of a committee to visit the University (see page 110) was offered, on behalf of Prof. Hilgard, providing for a report on work to be performed, "in conjunction" with the University and the Commission.

The following day the committee, having signed a report made, as was understood, substantially to correspond with previous utterances, presented the same and it was passed, as it is usual in such cases, without reference and without debate. It was

only afterwards that the inconsistency of the final resolution (see pages 161 and 162) was noticed; in the preamble there was a provision for work by the University in co-operation with the Viticultural Commission, but the resolution itself wholly ignored all previous understanding and was adopted without reflection; whether this perversion was by accident or design, we do not care to discuss. Other important reasons caused the officer of the Commission, after consulting with many leading vine growers, to adopt the spirit of the Convention in making recommendations to the Legislature, whose action has been explained. The Board of Regents refused to ask for this special appropriation; the Professor of Agriculture contended for it and was in frequent correspondence with members of the Legislature. The result was that the item favored by him was unanimously struck out by the Assembly, and the item proposed and written by the representative of the Commission was unanimously adopted. The Professor's Department has been provided for by the general appropriation for the University, as follows: Total, \$23,500; of which, according to his own estimates, \$6,000 are intended for viticultural work, and \$1,800 for his Agricultural Laboratory; therefore his work does not depend on the use of the joint appropriation. The Professor of Chemistry, however, is not so well provided for. And so this question, out of which Prof. Hilgard is now attempting to create much discussion, was really settled by the law-makers.

FAULT FINDING.

It is surprising how much ignorance exists among vineyardists and those interested in viticulture as regards their own business. After all that has been written and said on the subject, there are still people who, so as to economize a few cents, will not avail themselves of what is constantly at their disposal. Others find it too much trouble to learn, even from their neighbors, through an interchange of ideas. They plod along in the old groove which they have pursued for 20 years, grumbling and dissatisfied when they see others progressing. During a recent trip through a district which was last year laid out in vineyards, the poor planting that had been done was most noticeable. Upon inquiry it was found that a simple hole had been made with a bar, the cutting stuck into the soil, and so left to itself, the planter hoping that favorable weather and nature would do the rest. As last season was a particularly dry one, it can easily be imagined why there was so great a percentage of failures. The reason that it costs so many dollars less not to dig holes and fix the earth firmly around the new cutting cannot be a sufficient one to risk losing a year's growth. Where careful planting was practised in the same district success was assured, some planters losing only from two to five per cent.

THE SAN JOSE CONVENTION.

The report of the proceedings of the Viticultural District Convention, recently held at San Jose, will be published in the regular issues of the MERCHANT. Any orders for extra copies required should be forwarded next week so that we may know how many to print, and that disappointment may be obviated through the impossibility of filling subsequent orders. The only charge will be the regular price of each paper in which the report appears, and it will probably not extend over two or three numbers.

GOOD FOR CALIFORNIA.

In *Los Vinos y los Aceites*, of Madrid, Mr. J. de Hidalgo Tablado expresses his admiration for the completeness of the official reports of both the Professor in charge of the Agricultural College of the University of California and the Chief Executive Viticultural Officer of our State Board. Where such profound search after knowledge and practice is made, Mr. Hidalgo augurs well for success. His remarks in this connection, that olive culture in California is called to be very important and the production of olive oil in due time to become one of the principal sources of wealth. This opinion of the practical Spanish author who has a long experience in his country and has manifested great interest in samples of California olives sent him by Mr. Pohndorff, is of value. It is stated that this season a considerable number of olive plants have been set out by many viticulturists in this State.

ROUND THE HORN.

Among the wine shipments by sea in our table of 2nd inst., published in this issue, is an unusual one. The ship *Sterling*, bound for New York, carried 6,680 gallons of California wine and 55 gallons of California brandy, valued at \$4,405. This, we believe, is the largest shipment that has been made by any one vessel sailing round the Horn to New York and the condition in which the wines arrive at their destination, after so long a sea voyage, will be learned with interest.

ALCOHOLIC STRENGTH OF WINES.

EDITOR MERCHANT:—At the San Jose Viticultural Convention, I was asked by the President the question: "Is it true that California wines are heavier in alcoholic strength than European wines; thus making our wines more intoxicating than the latter?" My reply was that wines in corresponding latitudes in Europe, in countries that are inhabited by sober nations growing and consuming wines, are as heavy in alcohol as ours, or allow one-half or one-third per cent less in many European wines, we are on an equality with them. The excess, where it may occur, will be made up by proportioning other elements in the composition of wine. It is not alcohol alone that causes intoxication, but alcohol conditioned by other component parts, and chiefly where from imperfect grape varieties it is shaped in conjunction with acids, has that effect, whereas wines of a perfect composition from certain varieties of grapes, even with as great a percentage of alcohol as 12 per cent, has the property of not acting disadvantageously on the brain, even when a comparatively large quantity of that wine is imbibed. This was the drift of my reply, which I illustrated by examples that in Spain had come under my experience. I stated that I had seen in Castile, children and women drink on a hot day at railway stations, wine as a refreshment, in goblets the size of which would double the portion I allow myself at one meal. Having on several occasions followed the example, I found that really there was no reason for apprehension from the effect of wines such as Valdepeñas, pure clarets of light composition, carrying certainly not less than 11½ per cent of alcohol. A second tumbler of that wine quenched the thirst and it refreshed. The acids were the factor of refreshment. The effect of several big glasses of that wine (and Spain, France and other coun-

tries have many wines of a similar nature, and we have them in California too) was in no way different from that of water or milk, not on myself alone, who habitually drink wine diluted, but is as innocent to any one, children included.

These remarks I make, in order to take occasion of corroborating the fact of the equality of our California wines generally, as regards alcoholic strength, with European wines, by a table published in the Italian *Giornale Vitecolo*, of May 9, 1885.

This table contains the official analysis of typical wines of the Italian provinces of Alessandria:

Vintage.	[Samples.]	Name.	Alcohol.	Acid.
1883	32	Barbera.....	10.9	.662
1883	2	Barbera.....	10.73	.543
1883	13	Barbera.....	11.03	.716
1883	25	Barberato.....	9.92	.550
1883	9	Barberato.....	9.61	.547
1883	70	Uvaggio.....	9.39	.499
1883	5	Grignolino.....	9.55	.635
1883	15	Dolcetto.....	10.8	.422
1883	3	Dolcetto.....	12.4	.475
1883	1	Dolcetto.....	10.6	.409
1883	2	Fresia.....	10.3	.621
1883	1	Pinot(white)....	13.1	.392
1883	2	Moscato.....	6.33	.471
1883	4	Nebbiolo.....	12.55	.552
1882	17	Uvaggio.....	10.33	.507
1882	5	Uvaggio.....	9.3	.605
1882	2	Nebbiolo.....	12.1	.460
1882	1	Fresia.....	8.8	.591
1882	1	Dolcetto.....	10.5	.437
1882	3	Grignolino.....	9.6	.431
1882	1	Grignolino.....	10.3	.487
1882	5	Barberato.....	10.74	.496
1882	10	Barbera.....	11.85	.567
1882	1	Barbera.....	13.8	.467
1881	1	Barbera.....	12.8	.501
1881	2	Grignolino.....	11.9	.447
1881	1	Uvaggio.....	11.2	.460
1881	1	Nebbiolo.....	11.75	.450
1880	2	Dolcetto.....	10.65	.452
1879	1	Barberato.....	12.4	.511
1879	1	Barbera.....	11.5	.551
1871	1	Nebbiolo.....	12.7	.442
1871	1	Nebbiolo.....	13.1	.423

	Alcohol.	Acid.
In 13 samples of old wines.....	11.90	.465
In 46 samples of 1882.....	10.88	.500
In 228 samples of 1883.....	9.55	.582

In another table of wines of quality were found the following contents:

No. samples wine.	Alcohol.	Acid.
Barbera, 60 samples.....	11.17	.635
Barberato, 40 samples.....	10.15	.547
Uvaggio, 140 samples.....	9.45	.613
Grignolino, 11 samples.....	10.06	.585
Fresia, 3 samples.....	9.80	.611
Dolcetto, 22 samples.....	10.98	.430
Nebbiolo, 11 samples.....	12.20	.480

These tables show how varied is the sugar content of the different grape varieties and the corresponding alcohol developed in their wines, as well as the free acids in the same. Such tests are extremely useful, in order to fix people about the composition of the wines from determined varieties. The composition is important. We ought not to generalize and speak of all kinds of varieties as giving us the right to judge indiscriminately of their virtues or defects, and of the effect of their consumption. It is to be regretted that the above tables did not embrace tests of the Medoc varieties now occupying such a high place in the Asti region, as they might give us means of comparing our own beginnings with the Alessandrian produce from these varieties. It might be illustrative to the adversaries of the wine industry, could they themselves experiment on their own undefiled palates, stomachs and brains, with wine from varieties grown in California, which are restorative, pleasant, refreshing, and to the person who is really rational, non-intoxicating. We have such wines, and the varieties that yield them should be studied, and, if quality accompanies quantity, should be propagated. Our product from the Medoc varieties, which in the first samples enchant by their beauty, will be harmless to a prohibitionist, if his abstinence is not the fruit of want of moderation. F. PDF.

St. Helena, May 31, 1885.

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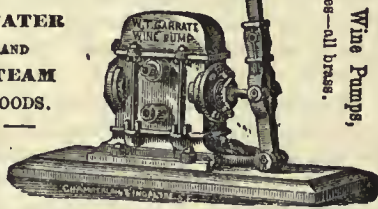
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THE SOUTHERN PACIFIC CO.,

Respectfully invites the attention of TOURISTS AND PLEASURE SEEKERS to the SUPERIOR FACILITIES afforded by the "Northern Division" of its line for reaching the principal

SUMMER AND WINTER RESORTS OF CALIFORNIA WITH SPEED, SAFETY AND COMFORT.

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"THE QUEEN OF AMERICAN WATERING PLACES." Only three and one-half hours from San Francisco.

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SANTA CRUZ.

PARAISO HOT SPRINGS.

EL PASO DE ROBLES

HOT AND COLD SULPHUR SPRINGS, And the only Natural Mud Baths in the World.

This Road runs through one of the richest and most fertile sections of California, and is the only line traversing the famous Santa Clara Valley, celebrated for its productiveness, and the picturesque and park-like character of its scenery; as also the beautiful San Benito; Pajaro and Salinas Valleys, the most flourishing agricultural sections of the Pacific Coast.

Along the entire route of the "Northern Division" the tourist will meet with a succession of Extensive Farms, Delightful Suburban Homes, Beautiful Gardens, Innumerable Orchards and Vineyards, and Luxuriant Fields of Grain; indeed a continuous panorama of enchanting Mountain, Valley and Coast scenery is presented to the view.

Characteristics of this Line:

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TICKET OFFICES—Passenger Depot, Townsend street, Valencia St. Station, and No. 613 Market Street, Grand Hotel. A. C. BASSETT, Superintendent, H. R. JUDAH, Aast. Pass. and Tkt. Agt.

"The Wine Press and the Cellar."

A MANUAL FOR THE WINE-MAKER AND THE CELLAR-MAN.

By E. H. Rixford.

[ST. HELENA STAR.]

"A glance through it discloses a vast amount of interesting information about wine-making, both in this country and in Europe * * * This is a subject on which our people should be especially informed, and we trust that the author's efforts in that direction may meet with liberal encouragement."

[S. F. DAILY EVENING BULLETIN.]

"The most timely California book of the season * * * It is safe to say that no work adapted to California wine-making and wine-keeping, which has yet been published is at all approachable to the volume under consideration. The arrangement, classification, and indexing shows a wonderful amount of care. The indexing is so thorough and the classification so perfect, that the person desiring to consult its pages for any particular information desired, pertaining to the special subjects of which it treats, can readily refer to it.

DAILY CALL, OCT. 18, 1883.

THE WINE PRESS AND THE CELLAR.—A manual for the Wine Maker and the Cellar Man, is the title of a work just published, from the pen of E. H. Rixford. The work, the author says in the preface, is the result of research by himself, chiefly for his own benefit, and in going over the literature of the subject of wine making, he failed to find a work in the English language which is adequate to the needs of the practical wine maker. The book is intended to supply the deficiency. Elaborate statistics of the California wine product are given. Besides the preface, the work contains twenty chapters, each embracing a distinct subject relating to the manufacture of the various wines and putting it up for market; defects and diseases of the liquor; mixing wines; analysis, etc., with forty-two illustrations in all. The processes begin with the gathering of the grape, following each step and the processes attending it, in the manufacture; treating of the various qualities and the causes upon which these various differences depend. The book contains 240 pages, and is thoroughly indexed.

Price \$1 50.

Sold by

THE SAN FRANCISCO MERCHANT.

323 Front Street.

LAND CLEARING WITH JUDSON POWDER
RAILROAD MEN, FARMERS AND VITICULTURISTS

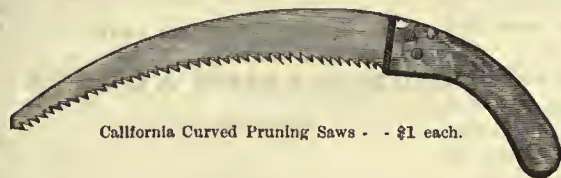
Have, by practical experience, found that the JUDSON POWDER especially, is the best adapted to remove STUMPS and TREES. FROM 5 TO 20 POUNDS OF THIS POWDER will always bring any sized stump or tree with roots clear out of the ground. The EXPENSE IS LESS THAN ONE-HALF the cost of grubbing. In most cases, Giant Powder, or any other "High Explosive," is too quick, and ordinary Blasting Powder not strong enough. For particulars how to use the same, apply to

BANDMANN, NIELSEN & CO., General Agents

Giant Powder Co.,

210 FRONT ST., SAN FRANCISCO, CAL.

PACIFIC SAW MANUFACTURING CO., 17 & 19 FREMONT ST., San Francisco, Cal.



California Curved Pruning Saws - - \$1 each.

SAWS

OF EVERY DESCRIPTION On Hand and Made to Order.

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C. B. PAUL'S FILES

Repairing of all kinds done at short notice.

AMERICAN SUGAR REFINERY,

— MANUFACTURERS OF THE —

CELEBRATED CUBE SUGAR,

SUPPLIES ONLY EXPORTERS AND THE JOBBING TRADE.

This Company manufactures all the Grades of HARD AND COFFEE SUGARS AND SYRUPS. Special attention given to the making and packing of Loaf Sugar for exportation.

E. L. C. STEELE, President.

208 CALIFORNIA STREET.

BOOK, NEWS AND COVER PAPERS, FLAT PAPERS, BILL HEADS, CARD STOCK, ENVELOPES, CARPET LINING, BINDERS' BOARDS.



MANILA, HARDWARE AND STRAW, WRAPPING, PAPER BAGS, STRAW BOARDS, TWINES, Etc.

IMPORTERS AND DEALERS IN

All Kinds of Printing & Wrapping Papers.

CLARIFYING & PRESERVING WINES.

The undersigned having been appointed Sole Agents on the Pacific Coast by Messrs. A. BOAKE & CO., Stratford, Eng., for their renowned

LIQUID ALBUMENS,

Beget to call the attention of Wine Growers and Wine Merchants to the following articles, the superior merit of which has been confirmed by Silver Medals, the highest awards given at the International Exhibitions of Paris 1878, Bordeaux 1882, and Amsterdam 1883; viz:



LIQUID ALBUMEN FOR RED WINES,

CLARET, BURGUNDY AND PORT.



LIQUID ALBUMEN FOR WHITE WINES,

HOCK, SAUTERNES, SHERRY AND MADEIRA, ALSO FOR DISTILLED LIQUORS; BRANDY, WHISKY, GIN, Etc., Etc.



WINE PRESERVER,

FOR PRESERVING THE BRILLIANCY OF THE WINES.



WINE CORRECTOR,

FOR CORRECTING THE ROUGHNESS OF YOUNG WINES.



WINE RESTORER,

FOR RESTORING BADLY MADE OR BADLY TREATED, HARSH AND TART WINES.

A trial according to directions will prove the superior quality of these finings. For sale in quantities to suit by

CHARLES MEINECKE & CO.,

Sole Agents. 314 SACRAMENTO ST., S. F.



For sale to the city and country trade in lots to suit.

MACONDRAY & CO.,
204 and 206 Sansome St

San Francisco Forge

H. SANDERS, Proprietor,

"The only Manufacturer on the Pacific Coast of

OIL WELL TOOLS

— AND —

ARTESIAN WELL BORING MACHINERY.

All work guaranteed at lowest prices. Estimates also furnished.

— 315 MISSION ST., —

Bet. Fremont and Beale. San Francisco, Cal.

N. B.—Charles Oester is no longer connected with this Forge, and has not been since December 31, 1883.

THE OLIVE TREE & ITS PRODUCTS

— AND THE —

SUITABILITY OF THE SOIL & CLIMATE

OF CALIFORNIA FOR ITS Extensive and Profitable Cultivation.

— BY —

JOHN J. BLEASDALE, D. D., F. C. S.

For Sale at

THE "MERCHANT" OFFICE

PRICE 50 CENTS.

THE COCOA CROP IS SHORT!

Look Out for Adulterations.

— BY USING —

WALTER BAKER & CO'S

CHOCOLATE.

You will be Sure of Securing the Best.

WM. T. GOLEMAN & Co.,

SOLE AGENTS

J. E. WISEMAN,

HONOLULU, H. I.

P. O. Box 315.

The only recognized

GENERAL BUSINESS AGENT

— IN THE —

HAWAIIAN KINGDOM.

Accounts Collected a Specialty. Manager HONOLULU THEATER. All correspondence attended to.

COVERT, MITCHELL & BROWN,

SUCCESSORS TO

H. M. COVERT,
Commission Merchants and Purchasing Agents.

203 & 205 SACRAMENTO ST., San Francisco.

Sole Agents for Paragon Axle Grease and the Paragon Baking Powder Company. Importers of the Paragon Uncolored Japan Tea.

H. W. BYINGTON, CITY STABLES'

FOURTH STREET,

SANTA ROSA, Sonoma Co., Cal.

Carriages and teams at reasonable terms to all persons visiting the vineyards of the valley.

SILK CULTURE.

His Progress in the Hawaiian Islands Successfully Started by Miss Nellie Lincoln Rossiter.

The following communication, handed to the MERCHANT for publication, will be of interest to our Hawaiian readers :

HONOLULU, H. I., April 1, 1885.

Miss Nellie Lincoln Rossiter, Practical Silk Culturist, New Lisbon, Burlington Co., New Jersey.—Your favor of March 3d with package of eggs has been received. Owing to delay in receiving the letter and package from the Postoffice, they were 19 days reaching me from the time of your mailing them. On opening the package I found quite a number of silk worms had hatched and were all alive. I judge them to be two or three days old. I got some leaves right away for them, made some trays, according to directions in your book of instruction, and now I have eight trays full, and am getting some new worms every day. They are doing very well. Thanking you for your promptness and for the book of instruction, I remain,

Very respectfully yours, LEON MALTERRE.

This gentleman received one-half ounce (20,000) eggs. Miss Rossiter also sent him one ounce white mulberry seed, which he will plant. There are some few mulberry trees on the island of Oahu, and also on other islands of the group. Silk worms, from eggs furnished by Miss Rossiter, are being raised according to instructions contained in her valuable book, in the Hawaiian Islands, at Ismid, Turkey; at Bruges, Belgium; at Jamaica, West India Islands; at Natal, South Africa; and in Canada. We wait anxiously to know where she will be heard from next. Who has done more for silk culture, both in this country and abroad, than this young girl ?

A Practical Education.

The value of a good education can scarcely be over-estimated. To the young man entering upon the active duties of life, a practical education is of prime importance. It is his stock in trade, by means of which he may lay the foundation of future independence and prosperity. A thorough business education is always available capital, and is of inestimable value to any one starting out in the world, with its prizes to win by knowledge, skill and capacity, or to lose through ignorance, incompetency and neglect.

Those who have enjoyed the advantages of the high school, the academy, or the classical college, and who have reached the highest honors in any of these institutions, have yet much to learn before they are qualified for the practical duties of business life. The most profound knowledge of Greek and Latin, Geology and Astronomy, Belle-lettres and Philosophy, falls far short of the requirements necessary for business pursuits.

It is evident that the Commercial College, like the Law School, the Theological Seminary and the Medical College, has a special work to do, which no other institution is competent to perform. When properly conducted it imparts a thorough knowledge of business affairs, and initiates its students into the practical duties of the accountant, the merchant, the banker and financier, in the multifarious transactions of the commercial world. There can be no question as to the practical utility of a good commercial education. It is the most reliable capital parents can give their sons or daughters, with which to enter upon the active duties of life.

The Business College has become a recognized necessity, and is in active sym-

pathy with modern life. It deals with living interests, having little to do with the dead issues of the past. By its short, practical methods, it brings to view and places within easy reach the general principles and outline of business, so that its students soon become practically qualified for active service in commercial pursuits. It is in sympathy with other institutions of learning, coming to their aid, and supplementing their instruction by that course of practical training which prepares its students to enter at once upon a successful career in business.

It is well understood by those who have examined the practical workings of Commercial Schools, or by those who have become acquainted with the qualifications of their graduates, that these institutions differ widely in the thoroughness and practicability of their courses of study, as well as in the quality of the instruction given. Since the advantages they offer are usually accepted but once in a lifetime, those desiring a reliable business education would do well to examine the merits of the different schools before deciding where to attend. The Pacific Business College is always open for investigation. No. 320 Post St., San Francisco.

How to Make a First-class Raisin.

Select perfectly ripe and healthy raisin grapes which must have attained their highest degree of excellence, by being thoroughly ripe. Nature has then completed its excellent work, by the beneficent power of the sun, and the grape is prepared to enter upon its next stage of existence of being perfectly preserved, and thus prepared to minister to the human race, as a choice and healthy food. These grapes placed upon the trays have been separated from the parent vine, and starting on their new mission, need the fostering care of those who have the charge of this critical period of their existence. Nature's physical laws are inexorable in their operations, and now these grapes separated from the care of the parent vine in this first stage of their new existence, must be carefully watched over, protected, and if need be, shaded from the too great mid-day heat of the sun, till the elements in them that tend to destruction are evolved, and under the beneficent power of their Creator—the sun—they are transformed into a perfect raisin, that will, if needed, exist for years in the full possession of their highest excellence, gladdening the heart of man as food.

The Meeker Sun Fruit Dryer is constructed and arranged to meet all the exigencies of raisin curing, following in obedience to nature's physical laws—not forcing but sheltering and protecting from all exterior atmospheric evils, every varied antagonistic animal life, or dust of earth. Address, W. A. Meeker, corner Fifth and Bryant Streets, San Francisco.

The Leading Hotel

In San Francisco, is now generally acknowledged to be the Baldwin, situated on Market street, at the intersection of Powell and Eddy streets. It was completed and opened in May, 1877, and is conducted entirely on the American system. It fronts on four of the principal streets in the business portion of the city, and is very convenient of access, as no less than eight lines of street cars pass its doors. Nearly \$4,000,000 were expended in its construction and furnishing, in order to make it re-

plete with every comfort and accommodation that can be desired by tourists, travelers or family parties. The prices are reasonable, and the Baldwin is now under the management of H. H. Pearson formerly of the Cosmopolitan, and G. H. Arnold formerly of the Occidental, who is so well and favorably known to all Hawaiians traveling to and from the Pacific Coast.

WM. G. IRWIN & CO.

SUGAR FACTORS AND

COMMISSION AGENTS

Honolulu, H. I.

—AGENTS FOR—

- HAKALAU PLANTATION.....Hawaii
NAALEHU PLANTATION.....Hawaii
HONUAPU PLANTATION.....Hawaii
HILEA PLANTATION.....Hawaii
STAR MILLS.....Hawaii
HAWAIIAN COM'L & SUGAR CO.....Maui
MAKEE PLANTATION.....Maui
WAIHEE PLANTATION.....Maui
MAKEE SUGAR CO.....Kauai
KEALIA PLANTATION.....Kauai

Agents for the

OCEANIC STEAMSHIP COMPANY.

CASTLE & COOKE,

SHIPPING AND

COMMISSION MERCHANTS.

Honolulu, H. I.

—AGENTS FOR—

- THE KOHALA SUGAR CO.,
THE HAIKU SUGAR CO.,
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THE PAIA PLANTATION
A. H. SMITH & CO.,
THE N. E. M. LIFE INSURANCE CO. BOSTON,
THE UNION INSURANCE CO. OF SAN FRANCISCO,
THE GEO. F. BLAKE M'FG CO., STEAM AND VACUUM PUMPS,
D. M. WESTON'S CENTRIFUGAL MACHINES.

GEO. W. MACFARLANE. H. R. MACFARLANE.

G. W. MACFARLANE & CO.

IMPORTERS

COMMISSION MERCHANTS,

—AND—

SUGAR FACTORS.

FIRE-PROOF BUILDING, 52 QUEEN STREET, Honolulu, H. I.

—AGENTS FOR—

- THE WAIKAPU PLANTATION.....Maui
THE SPENCER SUGAR PLANTATION.....Hawaii
THE HELIA SUGAR PLANTATION.....Oahu
THE HUELO SUGAR CO.....Maui
HUELO SUGAR MILL.....Maui
PULLOA SHEEP RANCH CO.....Hawaii
NURLEES, WATSON & CO., }.....Glasgow
Sugar Machinery.
JOHN FOWLER & CO'S STEAM PLOW }.....Leeds
and Portable Tramway Works.
GLASGOW AND HONOLULU LINE OF PACKETS.

WILL W. HALL, President. L. C. ABLES, Sec'y and Treas.

E. O. HALL & SON,

(Limited.)

HARDWARE MERCHANTS.

Importers and Dealers in

California Leather, Paints and Oils
Cooking Stoves, Ranges, Plows,

And every description of Tools and Builders' Hardware, Nails, Cast Steel, etc.

CORNER FORT AND KING STREETS,

Honolulu. Hawaiian Islands.

F. A. SCHAEFFER & CO. IMPORTERS AND

COMMISSION MERCHANTS.

Honolulu, Hawaiian Islands.

H. HACKFELD & CO.

SHIPPING & COMMISSION

Merchants.

Honolulu, Hawaiian Islands.

H. W. SEVERANCE,

HAWAIIAN CONSUL

—AND—

COMMISSION MERCHANT.

316 California St.,

Room No. 4, San Francisco, Cal.

We are now prepared to furnish Vitrified and others, in any quantity, our well-known

VITRIFIED



GLADDING, McBEAN & CO.

1358 & 1360 Market Street, S. F.

Prices on application.

OCEANIC STEAMSHIP COMPANY

For Honolulu.



The splendid new 3,000-ton Steamships will leave the Company's wharf, corner Steuart and Harris streets, at three o'clock P. M.:

ALAMEDA - - - June 15th

MARIPOSA - - - July 1st

EXCURSION TICKETS AT REDUCED RATES

For freight or passage, having superior cabin accommodations, apply to

JOHN D. SPRECKELS & BROS. Agents

327 Market Street, corner Fremont

OCCIDENTAL & ORIENTAL STEAMSHIP

COMPANY.

for JAPAN and CHINA.

Steamers leave Wharf corner First and Brannan streets at 2 o'clock, P. M., for

YOKOHAMA and HONGKONG.

Connecting at Yokohama with steamers for Shanghai 1885.

STEAMER. FROM SAN FRANCISCO
SAN PABLO.....THURSDAY, JULY 9
OCEANIC.....TUESDAY, JULY 21
ARABIC.....SATURDAY, AUGUST 1

EXCURSION TICKETS to Yokohama and return at reduced rates.

Cabin plans on exhibition and Passage Tickets for sale at C. P. R. Company's General Offices, Room 7, corner Fourth and Townsend streets.

For freight apply to GEO. H. RICE, Freight Agent at the Pacific Mail Steamship Company's Wharf, at No. 202 Market street, Union Block.

T. H. GOODMAN Gen. Passenger Agent.
LELAND STANFORD President.

THE REPORT

OF THE THIRD ANNUAL

State Viticultural Convention

FOR SALE AT THE OFFICE OF

THE SAN FRANCISCO MERCHANT

323 FRONT ST. P. O. Box 2366.

Price..... 50 cents Each

Bound in Cloth, \$1.50.

SULPHURING VINES.

As vines are now blooming, the following extract from the last report of Charles A. Wetmore, Chief Executive Viticultural Officer, will be useful to beginners in viticulture, especially those who have planted muscats, and who are in danger of being affected by oidium:

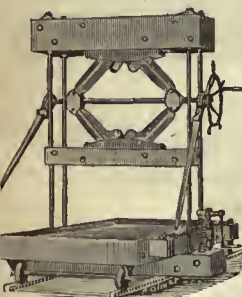
Oidium and mildew are developed by favorable conditions of atmospheric moisture and warmth. Sulphurous acid fumes from the combustion of sulphur under the heat of the sun, gently and gradually diffused about the vines are practically beneficial. The sulphur should be applied in warm dry weather in the form of powder; be triturated or ground sulphur is the best. Do not apply when the leaves are wet. Repeat applications, which have been rendered useless by rain, without delay, as soon as the weather is warm and dry. First application when blooming commences; second, when the berries are well formed, before they are larger than peas; third, after water, generally in July. I think that, when coulure is feared, an application should also be made as soon as the shoots are three or four inches long, to keep off the germs of disease. Probably the fungus that aids in producing coulure is the mildew and not oidium, which generally appears later.

WINE PACKAGES.

The manufacture of puncheons, barrels and kegs for wine-makers and wine-merchants is now one of the specialties of the Coos Bay Stave and Lumber Company. Every package is made of imported Eastern oak and by the latest improved machinery for which they have exclusive right on the Pacific Coast. By aid of this machinery they are able to turn out packages, from one to five gallons upwards, at minimum cost.

The Coos Bay Stave and Lumber Company also announce elsewhere that they manufacture a number of convenient, useful and necessary household appliances. They are such as are used in every house in the State and are most admirably adapted for the country, being light and handy, occupying but little room when not in use, being compact and strongly made. A reference to page 63 will show the justice of these remarks. The offices of the Company are at 323 Front Street, San Francisco.

WORTH'S IMPROVED PATENT Combined Toggle Lever AND SCREW PRESS.



I desire to call the attention of wine and Cider makers to my Improved Press. With this Press the movement of the follower is fast at the commencement, moving one and a half inches with one turn of the screw. The last turn of the screw moves the follower one-sixteenth of an inch. The follower has an up and down movement of 26 1/2 inches, with the double platform run on a railroad track. You can have two curbs, by which you can fill one while the other is under the press, thereby doing double the amount of work of any other press in the market. I also manufacture Horse Powers for all purposes, Engine Cutters, Plum Pliers Worth's System of Heating Dairies by hot water circulation. Send for circular. W. H. WORTH, Petaluma Foundry and Machine Works, Petaluma, Sonoma County, Cal.

Testimonials from I. DeTurk, Santa Rosa; J. B. J. Portal, San Jose; Ely T. Sheppard, Glen Ellen; Kate P. Warfield, Glen Ellen; J. H. Drummond, Glen Ellen; Joseph Walker, Windsor; John Harkelman, Tulon; Wm. Pfeffer, Guberville can be had by applying for printed circulars.

REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and San Francisco, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country.

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the Bermal Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

FINE VINEYARDS

IN SANTA CLARA VALLEY,

FOR SALE BY

T. H. CORDELL & CO.,

28 North First St. } & { 873 1/2 Market St. }
San Jose. } San Francisco.

\$22,000. 80 ACRES IN THIRD YEAR. OVER 65,000 vines of best varieties. Staked. A very fine property at a bargain.

\$3,000. 10 ACRES IN FOURTH YEAR. Near Los Gatos. Fine varieties, beautiful view and a good place.

\$10,000. 40 ACRES ON NORTH SIDE STEVENS CREEK ROAD. Excellent land and fine varieties. Set last Winter.

\$7,200. 36 ACRES ON MAIN ROAD IN SECOND YEAR. Splendid land. Good neighborhood.

We have a number of places with Vines and Fruit Trees for sale. Also Orchards and Orchard Land.

Call at Office or write for full particulars. Respectfully

T. H. CORDELL & CO.

Winery For Sale. To the Fruit Growers of California.

BERMEL WINERY,

And Three Acres of Land,

SITUATED CORNER WEST AND GRANT STS.,

Healdsburg, Sonoma Co., Cal.

On Line of S. F. & N. P. R. R.

Cellar under ground—capacity 40,000 gallons—capable of being enlarged to any capacity at small cost. Outfit complete to carry on the business. Dwelling and outhouse in good repair. Location most desirable in the State.

For further particulars apply at the office of the S. F. MERCHANT, or to

CEO. M. THOMPSON, Agent, Healdsburg, Cal.

MOULTON & CO.,

REAL ESTATE,

MONEY AND INSURANCE BROKERS,

HEALDSBURG, SONOMA CO., CAL.

A large quantity of the FINEST GRAPE LANDS in the County are now in the hands of this Company for sale.

A list of Russian River bottom lands and red gravelly hill lands SPECIALLY ADAPTED TO VITICULTURE, will be forwarded on application.

Buyers should visit Healdsburg before settling elsewhere.

Office in the Sotoyome Hotel, Healdsburg.

For further particulars apply at the office of the S. F. MERCHANT, 323 Front street, San Francisco.

FROST & GILMAN,

REAL ESTATE BROKERS.

OFFICE 529 1/2 FOURTH STREET,

Santa Rosa, Cal.

Farms and Stock Ranches for sale and to exchange for city property. VINEYARD LANDS A SPECIALTY. A list of properties particularly adapted to Grape Culture forwarded on application, and on file at the office of the S. F. MERCHANT, 323 Front street, San Francisco.

FRESNO LAND OFFICE.

Choice Farming, Fruit and

Vineyard lands

Improved or Unimproved.

With or Without Water for Irrigation.

FOR SALE,

IN SMALL OR LARGE TRACTS,

Terms Easy.

For maps, circulars, etc., call on or address

W. P. HABER, Manager,

Fresno, Cal.

Or PACIFIC COAST LAND BUREAU, 22 Montgomery St., S. F.

RAILROAD LANDS

— IN —

NEVADA, CALIFORNIA AND TEXAS.

FOR SALE ON REASONABLE TERMS

Apply to, or address,

W. H. MILLS, Land Agent, G. P. R. R. SAN FRANCISCO, JEROME MADDEN, Land Agent, S. F. R. R. SAN FRANCISCO

— OR — H. B. ANDREWS,

LAND COMMISSIONER, B. H. & S. A. RY. CO., SAN ANTONIO, TEXAS



A. 1876 S. I. XII. I. S. 1888 G.

The Industrious never Sink.

GUY E. GROSSE, Broker in Real Estate Ranches, Residence, Business and Manufacturing Property Bought and Sold on Commission.

Ann Publisher of "Sonoma County Land Register and Santa Rosa Business Directory."

Office, No. 312 B St., SANTA ROSA, CAL.



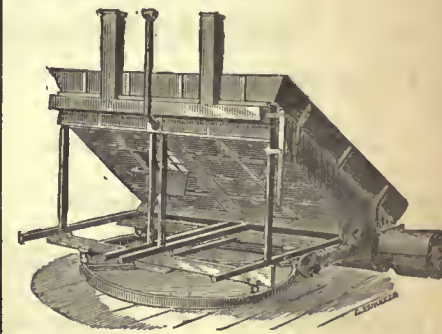
The subject of Fruit Preservation is one that vitally affects the interests of every Fruit Grower of this State. Many who have embarked their all in a Fruit Farm will find themselves shortly in a very embarrassing position if they do not view this matter carefully and intelligently, giving it their earnest thought. It is wise to obtain all possible knowledge from every known source on this special subject, and then to wisely forecast the future, by making such provision that they may be enabled to control the products of their own orchards and vineyards—and not be compelled to throw their ripe fruits on a market overburdened already and tottering to a fall. This means great pecuniary disaster—inevitable loss. (A word to the wise is sufficient.)

The MEEKER SUN FRUIT DRIER offers to Fruit Growers a certain mode of preserving their fruit based upon an absolutely correct principle, retaining to the fullest, the highest degree of excellence with the most economical outlay of money, and placing the fruit in such condition that it can be kept from year to year, if needed, without deterioration of quality, ready for the best markets and the highest values of the world. The hitherto prevailing practice of drying only second-class and offal fruits, and then by mineral baths, clarifying it to make it presentable, must be discarded as a great wrong. Select the best, thoroughly ripe, healthy fruit, be it large or small, and then by careful and intelligent attention to its proper preservation, and neat packing for market—the very desirable end of ready consumers—and ready markets will have been attained. Genuine quality and honest packing of the fruit, and the victory is won.

In all matters of expense of operating, this DRIER is the perfection of economy.

Send for Treatise on Fruit Preservation. Prices on application.

No SULPHUR BLEACHING.

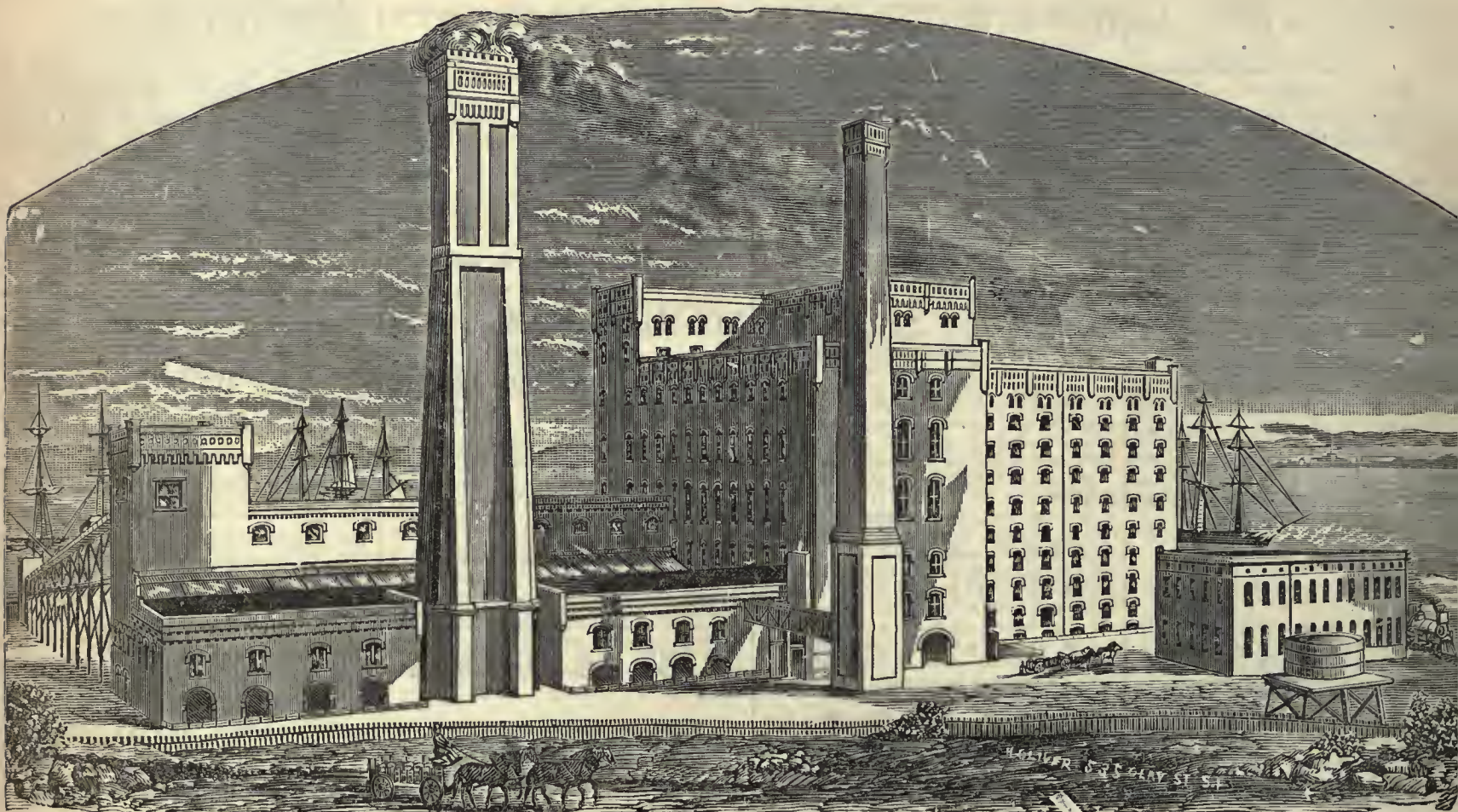


W. A. MEEKER, Fifth & Bryant Sts., San Francisco, Cal.

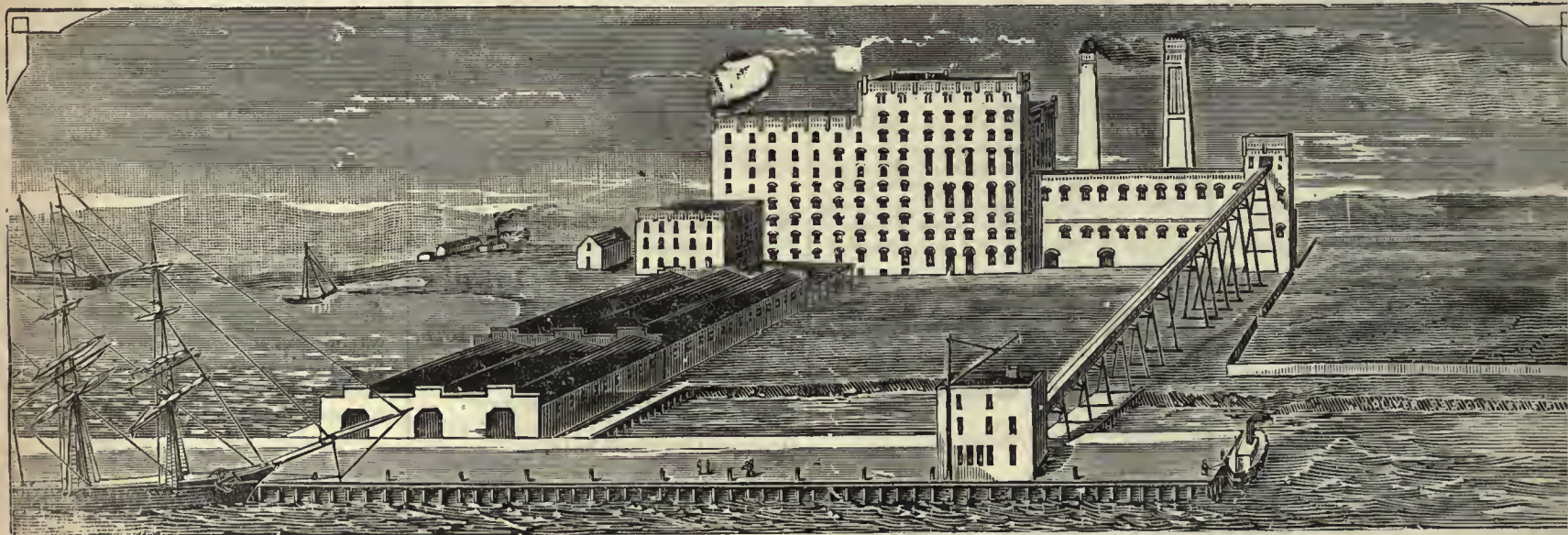
CALIFORNIA SUGAR REFINERY.

OFFICE 827 MARKET STREET.

West View of the New Refinery Building.



VIEW FROM SAN FRANCISCO BAY



—MANUFACTURES THE FOLLOWING GRADES OF—

SUGAR AND SYRUP:

(A) Pent CUBE SUGAR in barrels and bags

(A) CRUSHED SUGAR

Extra POWDERED SUGAR in barrels

Fine CRUSHED SUGAR in barrels

Dry GRANULATED SUGAR in barrels

Extra GRANULATED SUGAR in barrels

GOLDEN O in barrels

EXTRA O in barrels

HALF BARREL, ¼ cent more

BOXES, ¼ cent more

} For all kinds

SYRUP in barrels.

Do. in half barrels.

Do. in 5 gallon kegs

Do. in tins, 1 gallon each

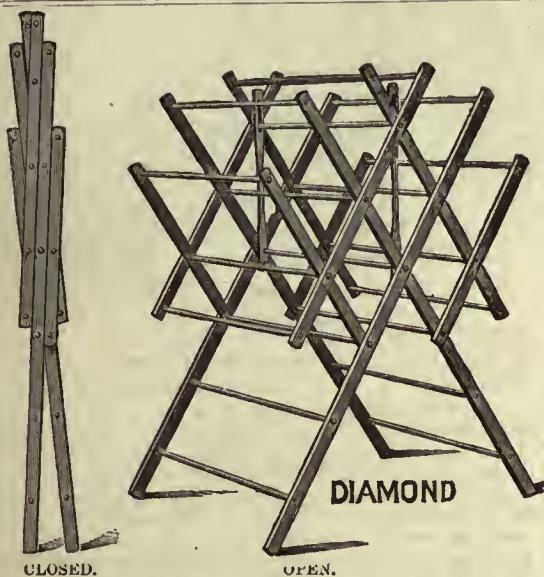


The Products of the California Sugar Refinery and guaranteed absolutely pure and free from all Chemicals and Adulterations.

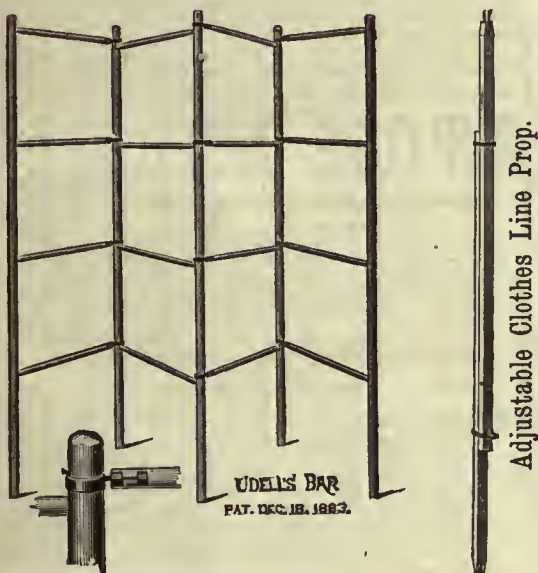
COOS BAY STAVE AND LUMBER COMPANY.

323 FRONT STREET, San Francisco Cal.

LATEST ADDITIONS TO OUR CATALOGUE OF USEFUL HOUSEHOLD APPLIANCES.



Diamond Clothes Rack.



Udell Folding Bars.

From 3 to 6 feet high and 3 to 5 sections



Towel Roller.

MANUFACTURERS OF ALL

— KINDS OF —

WOODEN WARE

— AND USEFUL —

HOUSEHOLD UTENSILS.

OUR LINE OF

COOPERAGE GOODS

IS UNEQUALED.

We Have the Latest Improved Machinery

And are able to

TURN OUT SUPERIOR WORK,

AT LOW PRICES.

Casks, Barrels and Kegs

OF ALL SIZES

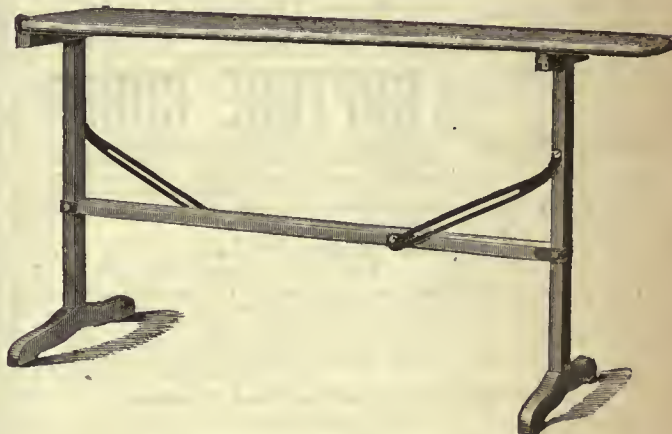
Constantly on Hand.

SEND FOR PRICE LIST.



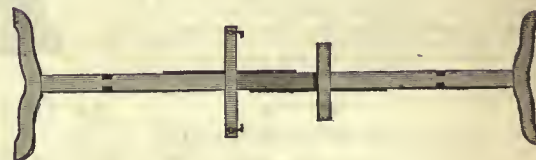
Udell Excelsior Step-Ladder.

FROM 4 TO 12 FEET HIGH.



SET UP.

Folding Ironing Table.



FOLDED UP.

Folding Ironing Table.

WOODEN WARE FACTORY
CORNER
SIXTH AND CHANNEL STS.

COOS BAY STAVE AND LUMBER COMPANY.

OFFICE: 323 FRONT STREET.

COOPERAGE:
CORNER
BRANNAN & EIGHTH STS.

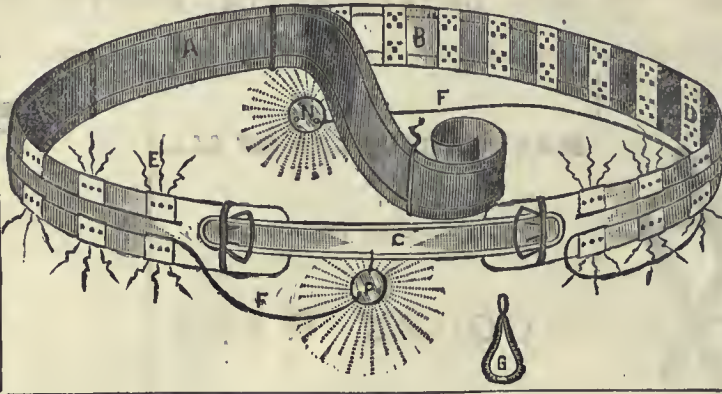
DR. PIERCE'S ELECTRO-MAGNETIC APPLIANCE

DR. PIERCE'S ELECTRO-MAGNETIC BELT.



IT WILL CURE

- Asthma,
- Lumbago,
- Neuralgia,
- Epilepsy,
- Constipation,
- Liver Complaint,
- Dumb Ague,
- Piles.



IT WILL CURE

- Rheumatism,
- Nervous Disorders,
- Diseases of the Kidneys,
- Impotency,
- Paralysis,
- Female Weakness,
- General and Local Debility.



The above illustration represents the greatest remedy ever discovered for the relief of suffering humanity. DR. PIERCE'S ELECTRO-MAGNETIC BELT is a perfect **Galvanic Body Battery**, and is capable of generating an electric current with or without acids. It gives satisfaction where all other remedies fail, and will positively relieve and cure all diseases and weaknesses of male or female that it is possible to relieve or cure by means of Electricity and Magnetism. Hundreds cured. The following are sample cases:

A Wonderful Cure.

St. Louis, Mo., November 8, 1884.
 DR. PIERCE & SON—Gentlemen: A short time ago I purchased one of your Electric Belts for weaknesses and general prostration, etc., and, after wearing it a few days, began to improve rapidly, and now feel happy to state that your belt has effected a COMPLETE and RADICAL CURE on me. I can hardly realize my cure, as it has been accomplished so soon. I recommend your Electro-Magnetic Belt to all who suffer as I did.
 Yours Truly,

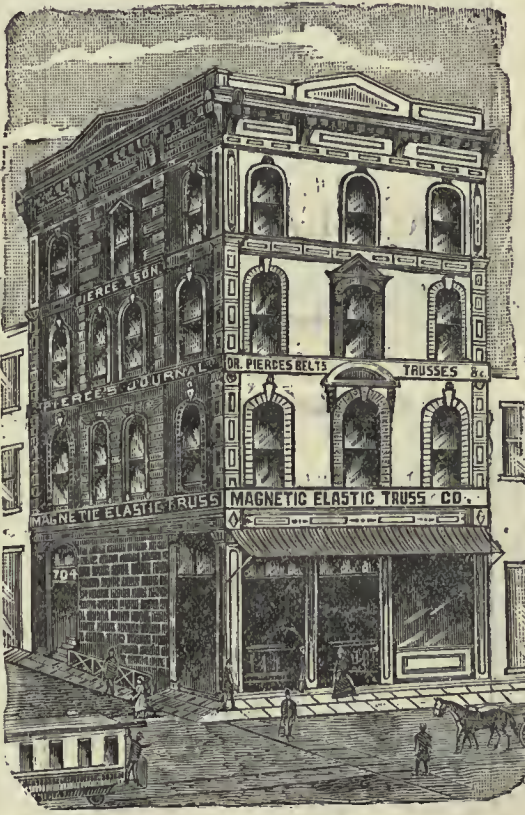
JOHN TOLL,
 Arsenal and King's Highway, St. Louis, Mo.

Another Cure.

St. Louis, Mo., June 20, 1884.
 DR. PIERCE & SON—Gentlemen: On the 5th of November I fell and sustained a severe contusion of the knees and injured the Sciatic Nerve, and was confined to my bed until I bought one of your Electro-Magnetic Belts, April 9, 1884. In three weeks after I was able to get about by the aid of a cane, and for some time now I have been completely cured, and can get about as well as before I was hurt.
 Your Belt acted like magic, and no money would buy it, if I could not get another like it.
 FRED. W. MAW,
 815 North old 24th street, St. Louis, Mo.

PACIFIC COAST HEADQUARTERS,
 N. W. COR. SACRAMENTO AND KEARNY ST.
 SAN FRANCISCO, CAL.

Manufactory of "Dr. Pierce's Patent Magnetic Elastic Truss," "Dr. Pierce's Electro-Magnetic Belt," and other Appliances. Established 1875. The largest establishment of the kind in the United States.



A Grateful Letter.

NEW WESTMINSTER, B. C., April 13, 1884.
 DR. PIERCE & SON—Dear Sirs: About two months ago I ordered your Electro-Magnetic Belts, and it has had a most wonderful effect upon me. In two days' time I found great relief from its use, and have continued to improve from day to day since that time, until now I feel like another man. What troubled me before I got your Belt was Dumb Ague, with Back-Ache under the shoulder-blades, with general prostration, etc. I swallowed after bottle of medicine, but instead of doing me good, I actually believe me harm. I kept getting worse until I obtained Dr. Pierce's Belt. The "medicine" for me. I consider it the most wonderful remedy ever discovered and will advise all who are ailing to give it a trial.
 Yours truly,
 J. N. NORTON
 New Westminster, British Columbia

Dr. Pierce's Electro-Magnetic Belt is rapidly supplanting all others, and is recognized by those who have used it as the greatest Medical Appliance of modern times. The Electro-Magnetic Current of the Belt passes through the body and along the nerves for hours at a time in a continuous stream, thus infusing new life and vigor into the weak diseased parts to which it is applied, as well as toning up the entire most speedy and permanent manner.
 Valuable printed instructions are furnished with every Belt. For particulars see our Circular containing testimonials, price list, etc.



RUPTURE CURED

In from 30 to 90 days by Dr. Pierce's Patent Magnetic Elastic Truss. Warranted the only Electro-Magnetic Truss in the world. Is a Perfect Retainer, and is worn with ease and comfort Night and Day. Thousands cured. The following will serve to show what results are being accomplished by Dr. Pierce's renowned TRUSS:

Cured at 74 years of Age.

FORT COLLINS, Colorado, Nov. 15, 1884.
 DR. PIERCE & SON—Dear Sirs: How thankful I am to you! I did not wear your "Magnetic Elastic Truss" three months before I was just as sound and well as I was before being ruptured. Just think how I had been badly ruptured for eight (8) years; and now at 74 years of age, am made a well man by your Truss. I have given your address to a number of afflicted ones. Ever your friend,
 NICHOLAS PATTERSON.

64 Years Old, Cured in Four Months.

WITTS' FOUNDRY, Hamblin Co., Tenn.
 August 27, 1884.
 DR. PIERCE & SON—Gentlemen: I am in my 64th year. I was ruptured for 20 years—it was called Inguinal Hernia of the right side. I procured one of your Magnetic Elastic Trusses the 18th of May last, and I now consider myself well. Your Truss is the best and most pleasant, and holds the best of all I have used. I am thankful and grateful to you one and all.
 Yours respectfully,
 JAMES E. SKEEN.

Surprised and Pleased.

DURANGO, Col., August 18, 1884.
 MAGNETIC ELASTIC TRUSS CO.—Gentlemen: I cannot return thanks enough for the benefit I have received from your Truss. It has done more than I expected, as I am entirely cured; but I continue wearing the Truss, and shall continue to wear it for some time, as it is no trouble whatever. I am surprised as well as pleased, as I had but little faith in it, but now I can say I am a well man. No use in any one suffering when they can be so easily cured. Accept my thanks.
 Yours truly,
 R. J. GIBSON

A Wonderful Cure.

CHICO, CAL., Sept. 4, 1884.
 DR. PIERCE & SON—Gentlemen: I desire to gratefully acknowledge that the Magnetic Elastic Truss you put on me in the fall of 1882 completely cured my Rupture, which was of three years' standing. The Truss cured me in three months' time and I have gone without a support ever since, and am as sound and well as if I had never been ruptured. The pain causes an irritation and itching sensation, as you told me it would, and the opening gradually healed up. You are at liberty to refer any one to me with reference to the wonderful cure effected on me by the use of your celebrated Truss. Yours truly,
 A. F. BLOOD.

Brief, but Pointed.

BELLEVUE, IDAHO, Nov. 12, 1884.
 DR. PIERCE,
 Sir: I have tested your Truss thoroughly. It adjusts itself and holds everything in place. I could not and would not do without one for four times its cost. This I state for the benefit of others. Yours Truly,
 HENRY C. BABB.

RUPTURE CURED.

From Capt. Woodside of the U. S. Mint.

SAN FRANCISCO, Nev., July 29, 1883.
 DR. PIERCE & SON: Having used your Magnetic Elastic Truss, it has succeeded in curing me of one of the most desperate cases of Hernia. I feel grateful, and cheerfully and heartily recommend it to all those suffering that affliction as the best and only good truss manufactured.
 Yours truly,
 JOSEPH G. WOODSIDE

P. S.—I have left off wearing the Truss, and have no return of the

No Relief in New York

SAN FRANCISCO, March 1, 1884.
 DR. PIERCE & SON—Dear Sirs: I am gratified to be able to inform the Magnetic Elastic Truss, which you put on me some time ago, has cured me of the extremely bad Hernia with which I had suffered for fifteen years before, my rupture was a bad one, very large and difficult to Previous to getting your Truss I had spent hundreds of dollars, here in New York, trying to get relief, but all to no purpose. Thanks to your creation, I am now a well man, and can go without wearing a truss, just as had never been ruptured in my life. If any who are afflicted as I was wish to see me in reference to my cure, let them call on me at my 1232 Mission street, in this city.
 I remain, gratefully yours,
 RICHARD MEHRTE

Two in One Family Cured.

CLOVERDALE, CAL., Feb. 24, 1884.
 DR. PIERCE & SON,
 Gentlemen—I have to inform you that your Magnetic Elastic Truss has entirely cured my husband of the terrible Rupture with which he has suffered during the last few years. The Truss cured him, notwithstanding the fact that he has been doing hard work nearly all the time, and been troubled with a bad cough, which made the cure in this case all the more remarkable. You will remember your Truss also cured my son Charles, a few years ago. He has not worn a Truss since, and there has never been any return of his Rupture. Respectfully Yours,
 MRS. J. J. MARCH

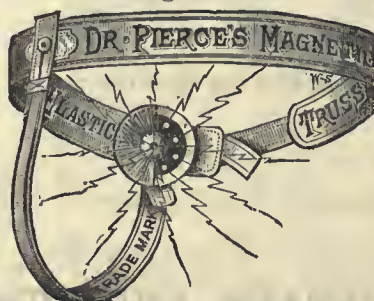
Another Man Made Happy

WEST OAKLAND, CAL., May 1, 1884.
 DR. PIERCE & SON—Gentlemen: I am happy to inform you that your Magnetic Truss has radically cured my Rupture. I was badly ruptured years, the intestines coming down into the scrotum, and causing me much annoyance and suffering. After wearing your Truss for ten months, I was cured and sound as I ever was in my life. I recommend your Magnetic Truss as being the best in the world. Yours Truly,
 WILLIAM FILLMORE

New ILLUSTRATED PAMPHLET containing full particulars will be sent free to any address.

Beware of inferior imitations of Dr. Pierce's Trusses and Belts.

Dr. Pierce's Magnetic Elastic Truss.



Call or Address all Communications as follows:

MAGNETIC ELASTIC TRUSS COMPANY,

No. 704 Sacramento St., cor. Kearny, San Francisco, Cal. | BRANCH OFFICES: 133 Madison Street, Chicago; 312 North Sixth St., St. Louis

THE SAN FRANCISCO MERCHANT.

THE ONLY VITICULTURAL PAPER IN THE STATE.

Devoted to Viticulture, Olive Culture, Sericulture and other Productions, Manufactures and Commerce of the Pacific Coast.

VOL. XIV, NO. 5.

SAN FRANCISCO, JUNE 19, 1885.

PRICE 15 CENTS.

ENGLISH EMIGRANTS

Who Want to Come to the State of California.

Inquiries as to our Climate, Resources and Cost of Living.

Are Life and Property Safe?—A Place of Residence—Profits on Crops—A New Home.

Mr. W. G. Kingsbury, the London Agent for the Central and Southern Pacific Companies has kindly forwarded to the MERCHANT, the following letter from Rev. R. Townson of Bristol, England, asking that it be answered in our columns. We take pleasure in complying with Mr. Kingsbury's request, and at the same time publish one out of many similar communications addressed to this office. Mr. Chas. A. Wetmore, Chief Executive Viticultural Officer, whom we have consulted on the subject, has prepared careful and accurate replies, to the numerous questions, which we publish in full. The extensive circulation of such information as the following will do much to place California in its true light, and will tend to dispel many erroneous opinions that have been formed concerning our manners and customs. The correspondence is worthy of careful perusal and speaks for itself.

EDITOR S. F. MERCHANT:—I have a copy of the S. F. MERCHANT by me. As it seems a nice publication for giving information of what is going on in the fruit farming districts, I shall be obliged if you will send me some copies. I want to know if fruit farming is productive; the price of land up the Sacramento valley, etc. Corn growing in the United States and Canada seems to be hard work and no profit, and the climate terrible in the winter, on farms.

Yours faithfully,
Wm. Brodie.
East Bourne, Sussex, England.

P. S.—Any information you can send me will be thankfully received. I have 14 children.

W. G. Kingsbury, Esq., 41 Finsbury Pavement, London, E. C.: DEAR SIR—I have had some correspondence with a lady—Mrs. Newman—on the subject of fruit farming in California, her husband being out there. I am desirous of obtaining some reliable information as to the real profits of fruit farming in California, and the inducements it offers as an occupation for young men of education and with a fair amount of capital. Mrs. Newman tells me that you would be able to give me more exact information about it than she can do, although her husband is engaged in it. Will you kindly excuse my troubling you with one or two inquiries?

First—What are the clear profits on an outlay that may be fully reckoned upon in fruit farming in California? I do not, of course, mean in exceptional cases. Whether the profits are very fluctuating, and the crops precarious?

Second—Is the climate agreeable and thoroughly healthy; free from malaria and fevers?

Third—What the cost of living is, compared with England?

Fourth—Whether life and property there are thoroughly safe and secure?

Fifth—Whether California would be desirable or otherwise, as a place of residence for an English family, and what would be the special drawbacks and inconveniences, that would be felt there?

If I am not troubling you too much, reliable information on the above points would very greatly oblige.

Faithfully yours,
REV. R. TOWNSON,
The Holmes, Clevedon, Bristol,
April 9, 1885.

Rev. R. Townson, The Holmes, Clevedon, Bristol: DEAR SIR—I am in receipt of your esteemed favor of the 9th inst., asking me a series of questions as to the profits of fruit culture in California. While I must acknowledge that yours is just such a letter as I have been wishing some one would write, I must at the same time admit that my own experience and personal knowledge of the country would not make me good authority for such answers, but I will send your communication to the editor of the S. F. MERCHANT, who will, I am sure, treat each question with marked ability and most undoubted authority. I spent three months in the State last year, and have written a hurried description of what I saw

and heard, which I send you herewith; in places here and there you will see profits of fruit growing mentioned, vide the Rose Vineyard of San Gabriel and the Barton Vineyard of Fresno, the Elwood Cooper olive oil in Santa Barbara and others. The profits are simply enormous and the people who own them are living in great luxury. Raw land planted to fruits and vines will increase ten fold in four years, and a fruit farm in bearing will pay for itself with two crops or about that. As for climate and health, and good, cheap living, it is all that can be desired. I am sending you a goodly number of books on the subject.

Truly yours,
W. G. KINGSBURY.
London, April 10, 1885.

STATE OF CALIFORNIA.

BOARD OF STATE VITICULTURAL COMMISSIONERS.

OFFICE OF THE CHIEF EXECUTIVE VITICULTURAL OFFICER.
SAN FRANCISCO, May 26, 1885.

Rev. R. Townson, The Holmes, Clevedon, Bristol, England: DEAR SIR—Your letter addressed to W. G. Kingsbury, Esq. was forwarded to the editor of the SAN FRANCISCO MERCHANT with request for reply to your inquiries. The editor, Mr. Buckland, one of your compatriots, now working for our cause in California, has likewise referred the communication to this office.

First—As to the clear profits on outlay in fruit farming in California, the answer must be that the profits are in direct relation with the intrinsic value of the land and the skill and good judgment of the cultivator, as in all other countries. The profits fluctuate in accordance with the fertility of the land, the judgment of the planter in selecting the right kind of fruits for each particular section. It is unwise to base any calculations on exceptional incomes derived in certain years when there is a combination of large crops and high prices for products. Fruit culture is extending so rapidly in this State that all that the producer has a right to expect is a fair profit on a given investment. Such fair profits can be derived here by any intelligent and industrious person who will attend to his duties and undertake to profit by the experience of others. Young men or old men, whoever they may be, who are practical in their habits of life, can fear no failure in coming here, as the business is based upon sound principles and is destin-

ed to lead all others in our new country, but do not permit any one of your friends to anticipate finding a gold mine in a vineyard or an orchard, which requires only the picking up of nuggets to make a fortune. We have the advantage here of new lands, fertile and suited specially above all others in the world to fruit culture; together with a growing nation comprising fifty millions of people to provide a market for our products. Any young man of industrious habits, of a practical turn of mind can make a success here. If he is endowed with superior mental qualifications leading him towards mercantile and commercial pursuits in connection with this industry, he would have the same opportunity that all others have in a community that grows rapidly and offers new opportunities for the development of enterprise. We know of no one who is starving in this country and only the infirm and the imbecile are sent to the poor house. Consequently, it is not unsafe, perhaps, to recommend any young man to come here who is willing to adapt himself to the circumstances under which he lives.

Second—The climate of California is, considering all things, the finest in the world. Its counterpart cannot even be found in Italy or Spain where there are more objectionable features than here. I do not know of any perfect climate unless it be that which is spoken of in the Scriptures. We don't expect to find one in this world, but the greatest number of favorable conditions for long life are to be found here, free from malarial diseases if the settler will use ordinary judgment in selecting his home. California is as large practically as France and in it can be found many situations of varied attractions. Low lands bordering swamps as in all other countries are more or less malarious, but there are millions of acres now fully settled so far as incipient civilization is concerned that offer us all the advantages that one could desire and it is in this State now that the invalids of the United States are looking generally for Sanitariums rather than to any part of Europe.

Third—The cost of living as compared with that of England can only be considered comparatively, that is, speaking of all items of expense in gross, we must compare them with the general average of profits on the industry. The poorest workman here has plenty of fresh meat every day and

good wages. As to those who employ workmen, some, who are impractical in their ideas, make little or no profit; others make handsome profits, all paying workmen \$30 per month for their services besides providing them with board and lodging. All articles of common food are cheaper here than in England. It is this country which furnishes you with meat at a profit. Necessarily the price must be cheaper here. Clothing is greater in cost, but this is a small matter to one who intends to be economical in habits while establishing a new home. Life and property are thoroughly safe and secure in this country provided the new settler is not of a belligerent character. The ordinary stories that find circulation through the world as to the habits of the people here, are generally based upon circumstances that happened in the lives of people of adventurous character, which are disposed of by juries generally with regard to the economy of the State. Oftentimes little vendettas between adventurous people are permitted to go unchecked by justice because it is unprofitable on the part of the people to punish them. This is the real truth of many of the extraordinary stories that are published. The society of all new countries is more or less permeated with adventurous classes who generally, when they get into difficulty, get into difficulty among themselves.

We have a large city here in San Francisco where life and property are as thoroughly safe as they are in London; yet, if one should imprudently become intoxicated and lie on the sidewalk, he would probably find some enterprising citizen who would relieve him of his valuables and Grand Juries would probably say that he was served right. People from all parts of the world, England included, and from among your most cultivated and intelligent classes, are living throughout this country in all parts, too, in positions that would be considered lonesome in all other countries, without fear, considering themselves as safe as they would be in the immediate environs of London. It is not a very uncommon practice on the part of people here, who know how to behave themselves and keep from quarreling with their neighbors, to leave their doors unlocked when they go to bed.

Fourth—As to the desirability of California as a home for an English family, I have the pleasure of reporting to you that the English families in all our new countries are foremost among the colonists. English families as a rule, are able to maintain themselves anywhere and in any place where other families can succeed. They certainly do not show any lack of intelligence and ability to compete with the families of any other nation. There is, of course, a certain national spirit that is imported into the country which tends to develop a kind of clanishness between the people of different nations which lasts, however, no longer than the life of one generation. It is, therefore, not uncommon to find those who come directly to this country from England, seeking homes in the immediate vicinity of others like themselves who have feelings of prejudice or customs or habits which render their mutual society more desirable. In that way, we have growing up among us, communities where the prevailing sentiment is of English character; others, German; others Italian; others, Spanish; but it must be said that the English family is the most easy to suit, as it has always a natural col-

onizing and independent characteristic less dependent on national sympathy. An English family coming here would scarcely be lonesome, as the members of it would certainly find throughout the State in whatever part they visit, others with whom they would find congenial associations. We are constantly receiving accessions to our population not only directly from England but also from Australia. During the last generation, it has been the policy of our Government to protect those who come to live with us in their industries against undue competition with those of the rest of the world. We presume that the interests of our people will not permit this policy to be changed, and as long as it continues, and as long as there are undeveloped natural resources, it is probable that we shall offer superior advantages to those who wish to come to live with us. I shall be pleased at any time to give you any further information of such a general character as you may desire or that may be shown by you in communicating with your friends. I am myself of English descent, and have relatives in England. It gives me pleasure to write to an English gentleman as frankly as I am doing now to you, and I believe that you will not consider my remarks unnecessarily tinged with provincialism as my experience is not entirely limited to this country, having visited England and the Continent, and having found my purse safer in this country than I did in London.

Yours truly,
CHAS. A. WETMORE,
Chief Executive Viticultural Officer.

OFFICE OF THE CHIEF VITICULTURAL OFFICER.
SAN FRANCISCO, May 29, 1885.

Mrs. M. A. LeQuene, 45 Gloucester, Jersey, Channel Islands, England: MADAM—Your favor of December 31st was duly received, but has been unfortunately laid away among others of similar character awaiting a suitable opportunity for reply. Please excuse my delay with the explanation that I have to give, that I have been too much occupied to attend as I should wish to do to my correspondence.

We have coming to California continually a large number of young men of your country, many of whom rapidly assume prominent positions in the industries which they engage in. The culture of the vine, in California has received much attention during the last few years and is being fostered by the legislative branches both of our State and general Government. For successful culture of the vine, we have practically only this State to depend upon, consequently, with a nation comprising a population of about fifty millions of people which is being rapidly increased by immigration from the older nations where the habits of wine drinking are common, it offers superior inducements for the continuation of our enterprise. Inasmuch as the markets for wine are so much greater than those for dried fruits, both by reason of the greater relative consumption and the facility with which the products are preserved after seasons of large increase, it is therefore probable that for permanent investment the culture of the vine for winemaking will be the most certain. However, this question must be determined very largely upon the selection that is made in purchasing land. The best advice that can be given to one who is not fully acquainted with our country, is to be sure that success may be promised wherever good judgment is exercised in determining the best uses to put a piece of land to after it has been pur-

chased. Those who come here will have an opportunity to select homes according to their fancy as varied in character as they would if they were selecting a home in France. When I make this statement, you can readily conceive how difficult it would be for any one in advance to recommend any given location. Having selected a home according to fancy, one could then easily determine, according to our local experience, which of the cultures may promise the best success, because you are not even limited to the question of winemaking or dried fruits, for you have many different selections that are possible even in winemaking; as for instance, you may fall upon a locality where the production of sweet wines, such as Port or Madeira, may be more profitably entered into than clarets, or vice versa.

The best advice that a stranger can give to your son is, if he desires to change his home, to come to California, and when he arrives here, to take advice from the most successful men in any line of industry that he chooses to follow in the locality that pleases him best. Such advice is easily obtained, as it is the disposition of our people to encourage immigration. Your son would find in this State many young men from England with whom he would feel acquainted from the start by reason of natural sympathy and habits of life.

One could not easily answer your question as to the amount of money necessary for starting an enterprise in viticulture without knowing the amount of income the person so starting would require. There are many instances here of large incomes from certain small plantations of vines which have been the result of unusual circumstances, but as we have millions of acres of land suitable to viticulture, and an unlimited supply of energy and enterprise, it is more than probable that all extraordinary profits will be reduced in a short time by competition; consequently, it is not safe to imagine that the establishment of a home here where agricultural pursuits are aimed at, will bring to the settler a fortune not commensurate with the amount of money invested. It is enough that any industry should offer a good profitable return fairly commensurate with the amount of the investment.

The price of land of equal intrinsic value may vary from \$50 to \$200 per acre. These variations are caused by local developments which render one place more desirable as a home than another; but the tendency is to equalize values very rapidly, as our country grows with much greater rapidity than people in the old country imagine, new communities growing up in a very few years. There are many instances of flourishing and beautiful villages surrounded by orchards and vineyards that have been produced by energetic and co-operative work within five or six years, and where lands have advanced in value by reason of such development from \$10 to \$200 per acre in that time. There are plenty more such opportunities if the settler is willing to endure a few years of comparative lonesomeness. It all depends upon the practical disposition of the settler. If he cannot be weaned from the close contact of neighbors and has no independent disposition and no adaptability to new circumstances, he will probably pine after the old country. But to answer specifically your question, you may rely upon the following proposition that your son can find many suitable locations equal to the best where land may be

purchased at from \$50 to \$100 per acre where others are engaged in similar pursuits and where he should be reasonable certain of obtaining a net annual revenue of not less than \$50 per acre upon his investment after his trees or vines are in bearing which commonly requires from three to five years. In order to bring a plantation to such profitable results will require an expenditure upon the land in planting and cultivating without revenue of from \$60 to \$100 per acre according to the nature of the culture he engages in, without estimating what he may choose to expend on such improvements as houses, stables and conveniences of like nature which can be estimated as well in England as here, as there would be no very great difference in price excepting that our people when pioneering are content to live in houses of much more humble character than when they are firmly established. Our climate does not require the same expenditure for such comforts of home life as in other parts of the world.

From such a simple statement, you may easily make an estimate of what your son ought to have to establish himself in accordance with his anticipated comfort. The estimated revenue that I have given you is based on calculations of increased competition. There are many such properties now that are producing revenues very much greater, and it is possible in future if good judgment is exercised in plantation as to the varieties of trees or vines selected that profits may be correspondingly large.

In entering upon viticulture, it would be best to consider also that winemaking should be combined with the production of the grape in order that the producer may realize all the profits that are possible, instead of disposing of fruit to those who manufacture the results. In such a case a few thousand dollars would be necessary to establish the necessary wineries and buildings. As to acquiring information in an industry like this, with which one is not acquainted, do not permit your son if he has any practical mind at all, to imagine that he cannot learn what all our other citizens easily do, by imitating the actions of the neighbors and learning from them and their experience, which is always freely offered.

Our Commission is appointed by the State to assist all parties entering into this enterprise and can be called upon whenever needed.

Yours sincerely,

CHAS. A. WETMORE,

Chief Executive Viticultural Officer.

WINE AND GRAPE EXPOSITIONS

Advices received by the MERCHANT note that an agricultural, horticultural and viticultural exposition will be held at Milan in September of the present year. Palermo will shortly hold an International Exposition of Wines and a special Exhibition of grapes is to take place at Venice. The exact date of the two last expositions has not yet been determined.

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WINES FOR BLENDING CLARETS.

The recollection of my becoming acquainted with the deep-colored wines from the termination of the southern slopes of the Pyrenees is so pleasant, that I gladly sit down and give you the description of what is connected with *blending wines* suitable for the French wine market from Northern Spain. I have no acquaintance with the production of the northernmost eastern province of Spain—Catalonia. That province is one of the densest populated, the most industrious and best cultivated of all. What the intelligence and perseverance of the Catalans is capable of in the wine industry, is proved by their Spanish sweet reds or Port character wines, which they pushed with ease into the Northern European markets, above all, into those of Great Britain. Quality and cheapness, and a few years after the type was begun to be shipped, the continuation of what was found to suit best, these were the means to replace the low grades of Port wines from Portugal. And it may be questionable if higher grades could not be reared too by long keeping. Seventeen, and more years ago, I bought in dozens of villages around the highest mountains of Aragon, the Moncayo, for years, many hundreds of thousands of gallons of dense, ruby-colored wines, sending trains full of them to France. Color, before everything, full body, fruitiness, an alcoholic force of at least 12, better 14 per cent, cleanliness and frankness of taste, hence only fully fermented wines, these were the conditions of the merchandise that could be found readily in those localities. A large number of valleys intersecting the minor mountains and hills around the Moncayo, itself of a height above 4000 feet, have their soil beautified from the rich matters to a large degree calcareous, washed down for innumerable ages from the heights. The result has been a fertility which seems inexhaustible. Eminently favorable conditions in regard to climate, dependent upon the configuration of the country, render the vine and the olive tree the staple plants, which for centuries have kept poverty away. Hills, the higher the better, allow quality both of oil and wine to be more pronounced, than can be reached in low valleys. Above 2,000 feet high, I found in villages which are in winter visited by snow and ice, the wines of the grandest beauty as to color, taste and flavor, and the grapes up there must be as sweet as in lower locations, for those wines marked as high an alcoholic proportion as the best elsewhere. Where, as I said, snow and ice and a bracing cold distinguish the winters, the vine and the olive seem to rest thoroughly from their vegetative work in the warm season, which is thoroughly warm, the thermometer keeping up bravely in the vicinity of the nineties. The quality of the oil of the places of highest elevation proves it. I have never seen finer olive oil than that I tasted up there. The region east dominated by the snow-capped Moncayo in the province of Huesca, produces wines which I recollect well I favored as of model quality. Transportation to the lines connecting with France enhancing the price, I did not generally buy largely there, but the good prices they fetch at present, prove that the demand of France has given these wines their real value. Catalonians formerly could afford to carry the Huesca wines away by carts to utilize them for coloring and giving body to their lighter wines. Quite a file of small boroughs

along the Elro and Gallego rivers, and again the preferable ones on the heights, grow wines that are quite distinguished. Mounting towards the region of which Calatayud is the head town, the wines are of remarkable color and high alcoholic strength, fulfilling all conditions except that of frankness of taste and flavor. An alkali taste (ground taste, it is generally called) lowers the value of them so much, that, except certain parcels free of that unwelcome addition, are unfit for the scrupulous French buyers.

But before I proceed in the description of the local produce I ought to state that the varieties which in Aragon and Navarre yield the deep—ruby tinted wines, the only kind made, are (and probably they are the originals France adopted from her neighbors across the Pyrenees) the Mataró and Carignan and several others going under the generic name of Tintos. Grenache, called Garnacha there, is grown too and rather abundantly, but separate from the tinting grapes. Certain localities on the foothills in Navarre have a renown for their old discolored yellow Garnacha wine, which serves as a desert wine and for convalescents, a substitute in its purity for the fortified wines Northern Europe cherishes, but which a Spaniard will not drink. The cultivation is rational, but manual work is the rule, and the plow little used, for there growers are thousands of small proprietors. Small means families who gather in and make in their own cellars from five to twenty thousand gallons of wine. The villages and small towns of the region pay their municipal expenses by a tax called the *alcabala del cantaro*. Annually a contract is entered in with the highest bidder for the right of measuring the wine and oil of the locality. In buying wine or oil, one has to get it measured by the contractor and his helps, and pay him a fixed amount per *cantaro*. The cellars are dug in the ground; you may have to go down a hundred steps. The temperature is equable and always adapted to the nature of the merchandise. You will find in these cellars, tanks of sizes varying from 1,000 to 4,000 gallons content. In the temperature of the cellar the preservation of the tanks is really everlasting. Often you meet with such that have served perhaps for a century and may serve yet for several generations. The fermenting department is always above ground and practical enough.

Except in the valley of Cariñena, the fermentation of the wines was always found to be well accomplished. The peasants would not rack the wine from the lees and lodge it in the lower cellar, before it was through its fermentation fully. In the town of Cariñena (which is probably the name the vine called in France—Carignan—bears) and some adjacent localities, the remainder of unconverted grape saccharine used to be considerable, the same as in the Navarrese village, Cascante. The wines from these places were in particular favor for local consumption. In the capital of Aragon, Zaragoza, these sweetish or rather sweet wines, luscious, but too full in body, of as grand a color as can be desired, are in high favor with many persons, although the careful consumer looks for a well fermented wine. The facility to sell incompletely fermented wines may have led to carelessness or even the determinate procedure of keeping them sweet. My friend Mr. Jules Lichtenstein of Montpellier, (known for his phylloxera investiga-

tions) had an establishment at Cariñena, and did his share to reform that defective wine making, and doubtless at present the wines are made according to the natural rule in that locality. The mountain villages in the district of the just named town, notably Cosuenda, produce wines of unexceptionable quality. The many Navarrese villages depending on the railway station of Mallen—and there are quite a number of the places—yield likewise wines that require little research to satisfy a buyer. Then the places from Tudela to Tazona and some thousand feet above that already elevatedly-situated episcopal town, a number of villages offer wines in hundreds of cellars, where the most scrupulous taster will not reject one tank. It is true, the village measurer who is always a reliable person, will not show any tank of wine which he knows to be in the least defective and would be rejected, if he did show it.

Gallur, by the by, on the Navarre railroads is a small place where one of the finest varieties of peaches is produced, finding a ready market in Madrid. The size and juiciness, the delicious taste of that fruit, might even surprise a Californian who by this time is accustomed to the best fruit acclimatized in our orchards.

Proceeding now to the practical and applicable part, I stated the conditions full-bodied and full-colored blending wines have to fulfill to suit the market of France. Now, with all the general similarity of the soil in Aragon and Navarre, with the sameness of the few varieties that furnish the wines, with the way or ways of vinification that correspond in the hundreds of villages there, climate, if according to sheltering hill-walls or openness of the landscape and exposure necessarily varying somewhat, but similar in its mean features in the whole district, I must say that there are notable differences in the wines. After the second year of purchasing and inspecting and selecting in each cellar what I was purchasing, I could even without comparison tell pretty much of any sample presented me in which region, often even in which village, the wine was grown. I had often to amalgamate wines from different localities to reach my standard and continue sending a certain type. This proves that, at least in a scrupulous market and when there is no great need of the merchandise, there are such diversities of types that one has to study well what is and what is not fit and satisfactory for the purpose the wine is to be used for. If light, neat, neutral wines of a low alcoholic strength are to be raised to become resistant to fatigues of journeys and keeping, the blending wine has to correspond. If character exists in the wine to be strengthened and should not to be overwhelmed or injured by the blending wine, then you want an extremely clean-tasting, call it a neutral wine, which however does not lack the *grapy* expression and must possess viscosity that will melt up. The complete conversion of the last trace of saccharine in the blending wine is a *sine qua non*, for heterogenous matters will not amalgamate without fight, and just consider what havoc a few hundred gallons of blending wine would cause to some thousand gallons blended with it were the blend to kick and work on and could for a year not be quieted or become bright.

We shall have to wait some years until we have wines for blending in the sense of the French. Of course any wine of deep color will go with another poor in color,

and properly we have no light or too light bodied wines to be benefited by a deep colored heavier one. When Mission reds were the staple Clarets in California, how joyfully we put the dark Charbonó to it as the lighter and more neutral wine to mitigate the heavy Mission which in its raw shape was so little acceptable to a refined palate. Our Zinfandel is not a blending wine. If good and near the perfection it can, but not always does reach, its fine bouquet and corresponding taste will conquer in the blend—if the wine to be benefited is coarse and heavy, the Zinfandel will be drowned in it and the blend be a non-success. We have to await necessarily the coming forth in quantities of wines from the different recent introductions, first among them those from France, to obtain blending wines of quality, such as used to be sold at 40 francs for 26½ gallons landed in Certe or Marseilles and can be bought there at present at from 35 to 50 francs.

Fresno wines from the Trousseau vine may be already near the mark of the lowest type France would buy. The Zinfandels of Fresno, if my capability of comparing from memory serves me right yet, would not suit as a rule, though some of perfect color would rank as of fair color and in ease of need might be accepted. Those wines of Fresno however for the present, whenever they are of full color, clean tasting and of good proportion of extractives, will do good service in California as blenders for ordinary shipping Clarets, and then there is so little of them yet. Nor will the quantity with all the good bearing and augmentation from copious planting amount to much. Meanwhile in the locations whence we obtain our higher qualities, varieties of high virtues and of color that need no addition, will come to the fore. I may be wrong, but have more than once pitied the stubbornness of our Southern grape-growers in not only sticking to but even multiplying the Mission vine. They had only two years ago the good advice of gentlemen who warned them because they could do so from experience and wished the Los Angeles well—but they despised it. Had they planted in abundance vines of proper varieties, they might now furnish wines of color, body and frank taste and would supply good blending wines.

Yet a few words about the dark red wines of that part of Castile bordering on Navarre and Aragon, which is called the Rioja along the river Ebro. The upper part of the district grows in the vineyards of the towns which are next to the region of full-bodied Aragonese—Navarrese wines, wines that are the medium between the latter and those of the higher Rioja wines. Passing a few miles above Logrono the vines are of the same varieties as in the Moncayo region, but the tone of the wine is entirely different. Deep and grand in color, its taste is mild, glib, expressive but right to be drunk in double the quantity one ventures to consume of the Aragonese wines. Its alcoholic matter may fill 12 in each 100 gallons of the Rioja wines, but they are not in the least heady—they are right away table wines and resemble ordinary Medoc wines. Their purpose for France, where most of these wines are sent, is to be blended with wines of less color, that of the Rioja wines being intense, containing three and four colors. They serve for coloring and strengthening good wines, and not in the sense as the heavy Aragonese wines serve as really elevating the alcoholic degree of low shipping wines. The district of the Rioja, of which Haro is center and including the Rioja of the province of Alava on foothills, produces wines of still higher quality, coming very near ordinary Bordeaux, but of far denser color than the latter. The reason of this, besides the superiority of the soil in that part of the Rioja is, simply that some twenty years ago Bordeaux vines were propagated there. In ordering cuttings of the best varieties for deep-tinted wines the collection sent to the Natoma Company, as friend Wetmore found, when they had foliage, contained Cabernets Sauvignon and Franc, Malbec and Merlot. You can blend well with wine from these varieties.

(Signed) F. POHNDORFF.

HAWAIIAN AFFAIRS.

Advices from Honolulu by the Alameda are to some extent satisfactory. The crushing of the present crop is everywhere turning out well, and the yield will be larger than the estimate. With the upward tendency of prices this is a very great matter indeed. It will make a considerable difference in the annual settlements of the plantations, some of which have not been profitable investments to their owners. On the other hand quite a number of them have paid dividends, and of course the outlook is promising for a continuance thereof. Improved methods of sugar making have helped to this result, but more careful and judicious management is also to be credited with not a little of it. Perfection has not been reached by long odds in either respects, but it is pleasing to know that our Hawaiian friends are well on the road of improvement. Reports from the various islands speak well of the growing crop. The weather has been very favorable, and the cane looks healthy and vigorous.

The establishment of Claus Spreckels & Co.'s Bank of Savings and Deposits has given rise to considerable discussion in the local press, all of which, with the exception of the *Advertiser*, appears to be either actively or covertly in opposition to it. Why this should be the case passeth all ordinary comprehension, inasmuch as increased banking facilities must necessarily benefit any commercial and producing community. But they do very funny things in Honolulu sometimes which, though perfectly natural there, would be incomprehensible elsewhere. The new Bank nevertheless is doing a "rushing business," and the old established Bank of Bishop & Co. has followed the lead of its young and vigorous rival, and is now offering 5 per cent premium on deposits. This fact alone shows the benefit the new Bank has conferred upon the community. It is clearly in the interest of progress and fair business dealing to have opposition in Banking as in trade. We trust both institutions may live long and prosper.

Exports of Island produce have been large of late, without any corresponding response in imports. This is to be regretted inasmuch as purchases might be made to greater advantage in this country now than is likely in the near future. Should a European war ensue, or should the anticipations of a great shrinkage in the growing crops be realized, prices of manufactured goods will go up to a certainty, and our Island friends, when they want to replenish their run-down stocks, must pay for their delay. The *Advertiser* states that this holding-back on the part of merchants is caused by the uncertainty regarding exchange, while the other papers attribute it to the unsettled state of the currency and misgovernment. The currency doubtless has much to do with it, inasmuch as it enters into the question of exchange, but everyone who gives thought to it must see that the real solution of this problem is in the hands of the Bank—we mean distinctly the old Bank. If it were to adopt the same liberal policy the new Bank has done, and help its constituents out of their difficulties, there would soon be a change for the better in Honolulu. Confidence would be restored and the currency question could afford to wait Legislative action. As it is the Gold Law appears to have been devised to embarrass trade, check industrial progress, and put unearned dollars into the pockets of the

men who controlled the banking facilities of the Kingdom.

Smuggling opium appears to have become an established business in Hawaii. For several years past a prohibitory law has been in operation. The only effect of it has been to deprive the Government of revenue, drive honest men out of the trade, and put money into the pockets of dishonest knaves. Heavy seizures were made towards the end of May, but it is believed that only a small portion of the contraband was seized. It is not too much to say that 5 per cent of the opium smuggled into the dominions of Hawaii is not captured. Doubtless the smugglers, who are usually Chinamen, have white men of social influence back of them or the traffic would be more easily suppressed. Most of the opium is sent from this Coast.

The establishment of insurance agencies at Honolulu by offices doing business at San Francisco, is an evidence that keensighted underwriters see a great future ahead for the capital of the Hawaiian Kingdom. If there were not a growing business there would not be such competition for what already exists. But the fact is, Honolulu and the Islands are steadily progressing despite dull times.

The MERCHANT has occasion to thank its Hawaiian newspaper contemporaries for exceedingly friendly and appreciative mention of it. We shall continue to devote special attention to the interests of the Insular Kingdom, which is so closely identified with San Francisco.

RAISINS.

The first number of the Riverside Daily *Press and Horticulturist* says:

The South Riverside Vineyard Company are prepared to put in a large dryer on their property (formerly the Yorba ranch on the Santa Ana river.) The principle is similar to the one put up by J. R. Newberry & Co. in Riverside, but it is vastly improved. It is proposed to cure the fruit (raisins) in the dryer at night and spread them to the sun in the morning as early as it will do, but, in case of a cloudy or damp or rainy day, the work can be carried on all day in the dryer. This is the dryer used by Miss Austin in Fresno county. In view of the fact that we occasionally have early rains during which great damage is done to the raisin crop it seems as though a large dryer or several of them in Riverside could be used to advantage.

ANTELOPE VALLEY.

From W. G. Kingsbury, the London Agent of the Central and Southern Pacific Companies, we have received a pamphlet containing a description of the Antelope Valley, Los Angeles county. After describing the locality Mr. Kingsbury deals exhaustively with its water supply, the terms upon which land can be obtained, how to get it, the climate, the crops that can be grown, capital required, timber, fencing, cost of living, the labor question, how to get there and the cost. In a small space there is a vast amount of information, the distribution of which should induce many of the denizens of the over-crowded European cities to take up their beds and start for California.

The Committee on Wines at the San Jose District Convention are requested to forward their reports to the Commission that there may be no further postponement in publishing the proceedings.

WINE AS A STIMULANT.

EDITOR MERCHANT:—California is *par excellence* a grape country. It is without a competitor among the States and perhaps in the world in this respect. The State has every variety of soil and exposure to be found anywhere on the globe. The single county of San Diego can furnish a counterpart in these respects to all the grape-growing countries of Europe. No climate that can be imagined is better calculated to perfection in growth, maturity and preservation of the grape than that of the State at large. Less subject than France to frosts, it has a longer growing season and a more nearly uniform temperature than any country of the old world. In the perfection of citrus fruits we cannot hope to equal the tropics; in the production of cereals we have a successful rival in the great Northwest; and in deciduous fruits we have no appreciable superiority to other sections of our common country; but in the perfection and yield of our vines we have absolutely no competitor. Now if there is need of this, our great staple in the civilization of this and future time, if we can by this product add to human welfare, why shall we not cover our hills and valleys with the vine?

Mankind will have a stimulant or a narcotic. Among the former we reckon fermented and distilled drinks, among the latter tea, coffee, opium and tobacco. The Latin races take their wines, the Scandinavian and Saxon spirits and beer, the Turk soothes his nervous irritation with coffee, tobacco and opium, while the Chinaman seeks his happiness in opium and tea. Stanley found the natives of Africa, that had never heard of a white man, using tobacco; Columbus found the Indians in the enjoyment of the same. Now looking at the whole field may we not safely conclude that man in every condition will have a stimulant or a narcotic, while many are in constant use of both?

The people of France use yearly thirty gallons of wine for each individual, yet they have a better developed civilization, with more personal freedom and happiness and less misery, poverty and lawlessness than any other European people.

In every Mohammedan country "prohibition" is not only the law but the religion, yet neither St. John nor Dr. McDonald would contend that total abstinence has wrought any miracles of public or private happiness in Moslem lands. In spite of the ablutions of their people and their rigid abstinence from pork and wine, Mohammedan countries are the great hot beds and hatching grounds of all the plagues that travel round the world decimating its inhabitants. The Egypt of to-day is poor and weak, where the use of wine is forbidden, in comparison with the Egypt of the Pharaohs, the builders of the Pyramids, the feeders of the ancient world, among whose people the wine press was a common institution. In New England fifty years ago cider was the common beverage at meals and in the field among the farming people, and the amount used was more to the individual than that of wine in France, yet in the New England of that day drunkenness, pauperism and crime were well nigh unknown. The adulteration of tea, coffee and beer make them unsafe beverages for use to their present extent. The consumer has no conception, in most cases, of the villainous compounds he is drinking.

If the people of California would drink their own wine at meals and fling tea, coffee and beer to the dogs, they would be richer, healthier and happier.

B. H. TWOMBLY.

Santa Ana, Cal.

SOLANO COUNTY.

Observations During a Visit to Green Valley and Cordelia.

The vineyard business is not so extensive in the above localities as in other places, although there are vines 25 and 30 years old, wine has also been made during the last 20 years. Nearly all the vineyards suffer from the ravages of the phylloxera and this, combined with the frost, makes the outlook for this year's crop a very poor one. Several vineyards visited will produce only one-quarter of their usual crop. However resistant stocks come to their relief for the future, and on every hand one sees nurseries of cuttings of resistant vines. The Cordelia Wine Co., of which Chas. E. Shillaber is the manager, will set out next year at least 400,000 resistant vines. These were set out last year and are all looking well with the exception of those cuttings which had not received proper care before reaching their destination, which shows positively that the manner of treating cuttings before setting out makes a great difference in their successful growth. The cuttings bought of one man grew well in the same soil, with the same care and the same weather in which the others failed. The Cordelia Company are building an extensive cellar with a capacity of 350,000 gallons which, when completed and stocked, will supply their own firm in the East probably the city of Boston will be the distributing point. They feel sure of success and would start out to-morrow had they a suitable and matured supply on hand to open their business with. Their motto will be pure and unadulterated California wines. Mr. Sweetser and others are largely interested in this Company, and if good judgment backed by capital will insure success they will not fail.

W. P. Durbin is one of the oldest residents in the valley; he remembers well the day when grizzly bears were numerous and has killed at least 50 himself. His residence stands at the foot of a densely wooded mountain where even now wild cats and small game are numerous. Mr. Durbin's vineyard is one of the healthiest and cleanest vineyards in the neighborhood. There are 140 acres in vines besides an extensive orchard which yields a good revenue, as do the orchards generally in this neighborhood, the fruit being that which appears in the market early. Farther up the valley the winemakers Bauchon and Batmelle have their cellar and 65,000 vines of good varieties and yet higher is the cellar and vineyard of Votipka & Son, who have made wine for 25 years and always shipped direct to Eastern customers, readily obtaining a good price.

A NEW EXCUSE.

Solicitors for newspaper business often meet with amusing and varied excuses when seeking advertisements for the papers they represent. A leading house of San Francisco dealing in produce and fruits of all kinds, was lately called upon by a solicitor for a city daily, and, in reply to his query for an advertisement, was told it was no use his advertising, why, "look at the crops, there'll be no fruit to advertise." Had he been honest and stated he did not wish to do business with the solicitor, or to increase his own business by advertising—the only sure method of doing so—he would not have become the laughing stock of the State. If a man dealing in fruit does not know the condition of the crops, he is incompetent to do business of any kind.

SCIENCE AIDING PRACTICE.

The wisdom of the action taken by the Viticultural Commission last year in using part of their funds to secure the aid of scientific men in solving difficulties encountered by practical wine makers has been well demonstrated already. The discovery by Professor Rising, of the State University, of mannite in wines, which were affected with milk sourness, is the first step towards perfection of methods of fermentation. The simple problem in such cases is to point out the conditions under which the conversion of grape sugar into mannite is caused, so as to ascertain how to avoid them. The transformations of fruit juices undergoing fermentation are not all alike, there being many different germs of ferment, each producing more or less different results from the same material. Professor Rising states that there are already known to be seven species of germs, which produce alcoholic fermentation; another species produces acetic acid (vinegar); another mannite; another lactic acid, etc. All fermentations, except the alcoholic, or vinous, are technically called, from the wine makers standpoint, diseased.

When sugar has been converted into mannite, a substance resembling the former, sweetish to the taste, is produced, which, while remaining in wine gives to the palate the impression of sugar remaining unfermented. Such wines have always been a source of anxiety to our wine dealers, as they have found by experience that further transformations take place, which turn the wines disagreeably acid as they grow older; in other words, such goods do not "keep well." Mannite is not converted by further fermentation into alcohol. Professor Rising is at present pursuing a line of investigation to determine the nature of the ferment, which appears to transform it into acid, and its possible identity with lactic fermentation. The ultimate objects of the wine maker will be to know how to prevent mannite fermentation in the first operations, and how to check the subsequent acidification, when accident produces the sweetish wine. Some varieties of grapes appear to be more liable to diseased fermentations than others; this is also particularly true concerning grapes grown in certain localities. Excessive heat in the fermenting mass, especially when the depth of the tanks is too great, appears to be one of the conditions under which mannite and lactic acid take the place of the desired alcohol. This fact has been known by wine makers for a long time, although the nature of the disease had not been explained to them. They have already found out that fermenting in low vats and frequent stirring of the liquid and marc to cool the temperature were remedies against imperfect results.

Professor Rising has now been requested by the Commission to make careful comparative experiments with the various germs of fermentation to determine the conditions of their activity in connection with our musts and climatic influences, and also to investigate the relative values of the true yeast germs, as well as the means of procuring them in purity. Brewers are in advance of wine makers in their studies of yeasts, and great care is now exercised in preparing pure germs for starting fermentations. It is well known that in some cases the use of common beer yeast in starting fermentation is apt to injure the quality of wines by producing diseased results; while certain experiments here have shown that purified yeasts—used in very

small quantity with the object of exciting the wine ferment, may sometimes, if not always, be safely used. There are in France, persons who prepare for use, true wine ferments. Our next step should be in the direction of determining how to prepare, and where to procure the best yeasts for use, when required, and for this purpose the Commission has requested the Professor to conduct a series of careful comparative tests, so that true rules of practice may be given. These studies must be accompanied by others relating to the necessary conditions of healthful fermentation. As it often becomes necessary to use tannin in wines, another important question is the means of producing a pure article from the seeds of grapes—the same as is found naturally in wine, but sometimes in insufficient quantity. C. A. W.

OFFICIAL VITICULTURAL WORK.

The following letter, which we are permitted to copy, explains itself:

STATE VITICULTURAL COMMISSION, }
SAN FRANCISCO, JUNE 9, 1885. }

Chas. A. Wetmore, Esq., Chief Executive Viticultural Officer—DEAR SIR: By the terms of the Act of the last Legislature, increasing the duties of the Board of State Viticultural Commissioners, the work of your office will be materially enlarged. The Committee, specially appointed to prepare instructions for your guidance, have had this law under consideration and respectfully call your attention to the following duties which you will be required to perform, to the best of your ability, as time and opportunity permit, viz:

First—When not otherwise engaged, to visit the vineyards of the State and to impart to those demanding the same, practical information concerning culture, pruning, grafting and other occupations of vine growers, including also the methods of preparing, manufacturing and marketing their products.

Second—To prepare statements of the condition, quantity, quality and variety of successive vintages, making the same public in such a manner as may be hereafter directed by the Board, or as, in your good judgment, temporary exigencies may require for the promotion of commerce, and to enable consumers throughout the United States to acquire such information as may lead to the advantage of producers.

Third—To prepare for publication a treatise on the rational uses and the danger of abuses of fermented and alcoholic drinks for distribution throughout the State, and for such use in the public schools as the State Board of Education may direct.

Fourth—To furnish annual statements of merchantable products of viticulture in this State to the Department of State at Washington, D. C., with the request that the same be forwarded to the consular offices of the United States throughout the world, to be used for the advancement of commerce.

Fifth—In accordance with the action taken by this Commission at its last semi-annual meeting, to visit the city of Washington, and to confer there with the officers of the general Government, making known to them the wants of our industry and the legislation demanded in our behalf for the advancement of our commerce and the protection of our products against competition with spurious and adulterated compounds, seeking their aid in procuring legislation necessary to accomplish what is desired. Also, during the same journey eastward, to

visit the large and important centers of population East of the Rocky Mountains, with a view to ascertaining the extent to which our products are subjected to competition with such spurious and adulterated compounds, and gathering information that will be useful to this Commission in preparing such measures for presentation to Congress, or elsewhere, as may be best calculated to benefit the producers of pure goods in this State, as well as also to prepare and deliver lectures on viticultural subjects to such audiences as your good judgment may select, with the object in view of disseminating valuable and practical information to consumers of our products whereby our markets may be assisted and enlarged and commerce may be stimulated and extended.

You are especially requested also, in the course of such journey, to gather information concerning the production of wines in Eastern States, and such statistics as may be useful to this Commission. During this journey you will be authorized to incur such incidental expenses in procuring facilities for approaching the public, and in disseminating information as your best judgment may direct, within the scope of your instructions.

It is understood that unless further directed your absence from the State will be limited to three months.

A copy of these instructions will be forwarded to the Committee specially appointed by this Commission, for the purpose of fixing the compensation for your services and expenses in accordance with these instructions, in addition to the amount allowed by law for your duties as prescribed heretofore.

Yours respectfully,
ARPAH HARASZTHY.

President and Chairman on Instructions.

Mr. Wetmore informs us that he intends to start East in about ten days, and, during his journey, will if he has time, deliver lectures on wine consumption and production in Portland, Maine.

South American Republics.

The shipments of wines from Spain to Paraguay in 1880, were 8,815,254 gallons, and in 1883, 9,809,296 gallons; and to Uruguay in 1880, 3,420,570 gallons; and in 1883, 5,913,983 gallons. The importations from Spain into both republics were larger yet in 1884. This is an astonishing increase, as France and Italy also ship considerable quantities of wine to the River Plate, and the Republics have taken to grape growing and are producing already respectable quantities of wine. Just compare these quantities of wine for the consumption of a few millions who inhabit the River Plate republics with those consumed by the fifty odd millions of North Americans.

How to Avoid the Effects of Late Frosts.

The experiments in France with the application of coal tar on phylloxerated vines chiefly for killing the winter egg, have led to the observation that vines treated with coal tar began budding several weeks later than non-treated vines. The same result was found with fruit trees. Utilizing this means to keep back the sprouting of vines and fruit trees to avoid damage from late frosts, the results seem to have been very favorable. The quantity of nine parts of coal tar and one part of some heavy oil is recommended for the purpose.

LIVERMORE VALLEY VINES.

A few small vineyards existed in the Livermore Valley—about 30 acres in all—prior to 1881. Chief among the earlier ones was that of J. W. Kottinger, the pioneer wine maker of the Valley. Since then the progress has been rapid. The Livermore Herald prints a recapitulation of the planting of the last four years (not including this season), which we re-classify, as follows:

I.	
WHITE WINE STOCKS.	
	Acres.
Johannisberg Riesling.....	25
Franken Riesling.....	42½
Chauche Gris (Gray Riesling).....	108½
Golden Chasselas.....	46
Colombar.....	38¼
Burger.....	79½
Folle Blanche.....	76½
Blaue Elbling.....	15
Orleans Riesling.....	18¾
Fehér Szagos.....	10¼
Chalosse.....	5¼
Verdal.....	8
West's White Prolific.....	5
Gutedel.....	2
Total.....	486½

II.	
RED WINE STOCKS (FROM OLD CALIFORNIA VINEYARDS).	
	Acres.
Zinfandel.....	823
Crabbs' Black Burgundy or "Petit Pinot".....	142½
Mataro.....	246
Carignan.....	37
Grenache.....	48
Chauche Noir.....	95
Charbono.....	75½
Trousseau.....	47¼
Meunier.....	35
Malbeck.....	78
Malvoisie.....	41
Merlan (Schram's).....	9½
Folle Noire.....	12¾
Lenoir.....	11
Total.....	171¼

III.	
RARE IMPORTED STOCKS—MOSTLY GRAFTS ON RESISTANT VINES.	
	Acres.
Cabernet Sauvignon.....	25
Cabernet Franc.....	13
Merlot.....	3
Verdot.....	8
Tannat.....	3
Sauvignon Blanc.....	4
Semillon.....	4
Muscadelle de Bordelais.....	2
Petit Bouschet.....	4
Franc Pinot.....	4
Plant Vert Dore.....	4
Grosser Blauer.....	4
Petite Syrah.....	3
Mondeuse.....	3
Total.....	81

IV.	
MISCELLANEOUS.	
	Acres.
Seedless Sultana.....	22
Larger Bloom (Muscatel).....	3
Gordo Blanco.....	19½
Muscatel.....	42
Black Hamburg.....	9½
Rose of Peru.....	8½
Flame Tokay.....	8
Malaga.....	½
Emperor.....	2
Black Chasselas.....	2
Sundry varieties.....	56
Total.....	173

V.	
RESISTANTS (TO BE GRAFTED).	
	Acres.
California, Riparia, etc.....	96½

The resume shows that the acreage of the foregoing varieties was planted as follows: In 1881, 50 acres; in 1882, 1,049 acres; in 1883, 812 acres; in 1884, 631 acres; total, 2,542 acres. During the present year the vineyards have been increased and a notable number of vines were added to the list of rare imported stocks.

**THE HALF YEARLY MEETING
Of the State Viticultural Commission.**

The following contains a detailed report of the proceedings of the semi-annual meeting of this Commission, held June 8th. Present, Commissioners Haraszthy, Krug, West, Shorb and Wetmore and Secretary J. H. Wheeler; President Haraszthy presided.

The Executive Committee reported that examinations of experiments made with Dr. Bauer's mercurial remedy were now in progress, and that Mr. Morse, the inspector for this work, would visit also other places where tests were being made, in order to enable the Commission to give a report on what had been already accomplished, as soon as possible. Mr. Morse had also been instructed to make examinations of other reported diseases, such as the false Chinch bug and certain dying vines reported from Solano county, the cause of which latter is not yet ascertained. The Committee stated that so far as they had received reports of tests made with the mercurial mixture by subjecting live phylloxera to the influence of soils impregnated with it they had proved very discouraging. The live phylloxera had been found apparently uninjured in the vineyard at Sonoma, even where four ounces of quicksilver were used around the roots of each vine. Mr. Morse had reported that he had taken the insects on roots and placed them in soil mixed with the quicksilver, subjected to a comparatively high temperature, but had not yet noticed any destruction of the pests coming therefrom. The Committee calls attention to the distinction between the tests now being made on roots of live vines and those which have heretofore been made on roots that have first been removed from the soil in the one case the roots have sap flowing in them and which are capable of sustaining the phylloxera, notwithstanding they are in the presence of the quicksilver in the soil, whereas roots that have been first taken up have the flow of sap checked, and apparent successes with the mixture may have been due to the fact that the phylloxera will leave a root after the sap ceases to flow in it. This may account for the difference in results of those who have made tests heretofore. The Committee, however, still hope that further experiments during the season may prove more encouraging.

The Committee on Conference with the Board of Regents of the State University reported that their work was not yet completed, but that they felt authorized to say that an understanding would soon be arrived at which would prove satisfactory to both institutions.

A resolution having been adopted by the Board at the last meeting, calling the attention of the officers of the State University to the reported existence of phylloxera in the vines at Berkeley, and the danger that existed of the spread of the disease from that point, by the winds, into Contra Costa County, and through infection of plants distributed from the University throughout the State, the Executive Committee reported that the Secretary had been instructed to communicate with the Secretary of the Board of Regents, asking whether any suggestion might be made on the part of the University as to this subject matter, for the information of the Com-

mittee of the Commissioners on vine pests and diseases. The Secretary had received a reply from Dr. Bonte of the University, stating that the matter would be laid before the Regents at the earliest moment practicable.

Professor W. B. Rising, being present, made a brief report concerning the performance of his duties as State Analyst at Berkeley, so far as the same related to viticultural work. In order to perform the work that would be required, as completely and thoroughly as the importance of the subject demanded, he stated that he would require an assistant fully competent to undertake the details under his supervision. His chemical laboratory at the University was complete for all practical purposes but there might be required a small outlay for certain special apparatus. He submitted the following brief report of expenses that would be incident to this work, independent of any compensation for his own personal supervision and investigations that might be agreed upon:

OFFICE OF THE STATE ANALYST.	
BERKELEY, June 9, 1885.	
Arpad Haraszthy, Esq., President State Board of Viticultural Commissioners—DEAR SIR: Herewith please find estimate of expenses connected with the analysis of wines, etc.	
Salary of competent assistant, \$100 per mo.	\$1200
Apparatus, etc.	250
Total	\$1450

Respectfully submitted,

(Signed) W. B. RISING.

Under the law of the last Legislature, providing for a State Analyst, to which office Professor Rising had been appointed by the Governor, he made his first report as follows:

"John H. Wheeler, Secretary State Board of Viticulture; Commissioners—DEAR SIR: I have examined the sample "grape milk" which you sent me and beg leave to report that the same contains salicylic acid.

Very respectfully, W. B. RISING,
State Analyst."

The "grape milk" referred to in the foregoing report was a sample submitted by the Commission for the purpose of ascertaining whether the contents had been preserved by any artificial or deleterious method; the material being unfermented grape juice charged with carbonic acid gas and sold as a pure article.

The Professor then stated to the Board that his studies relating to certain diseased conditions of samples of wine that had been submitted to him for examination were still in progress; that he had discovered in certain wines, that we call milk sour, mannite, and he was now pursuing a line of investigations to determine what connections, if any, there might be between the formation of mannite during fermentation, and the subsequent development of acidity in wines, such as usually called milk sour or lactic acid. The presence of mannite in some wines is not a new discovery, but while it is referred to in many authorities on wines, no great importance had apparently been attached to it, whereas in the samples examined here, the presence of mannite seems to indicate imperfections in original fermentations, and also some connection with the subsequent development of acidity in wines, which, after their first fermentation, were found to remain sweetish. To aid in this investigation he had, by means of fermentation of beet roots, produced the true germs of mannite fermentation. With these he would attempt soon, by making a fermentation of grape juice,

to identify if possible the source of mannite in wines. Mannite is a substance resembling sugar, produced from sugar in the must of grape juice by a distinct fermentation. When dissolved in wine it gives the impression of sugar remaining in it, but it is no longer in condition apparently to be converted into alcohol, but appears to be connected with future transformations into acid. Concerning these points the Professor stated he would as soon as practicable make a detailed report to the Commission. He was also preparing to develop and study other germs known in fermentation, with a view to ascertaining their influence in the practical making of wines, and to this end, as soon as the early grapes were obtainable, he would commence in his laboratory experiments to aid in his researches. In the meanwhile he would, if desired by the Commission, visit the cellars in the country, and still further investigate the actual presence of different forms of diseases in wines.

The officers of the Commission expressed their opinion that the discovery made by the Professor and the line of investigation which he had marked out, would probably prove of very great practical importance, and that his work already threw light on difficulties that had been encountered, which have heretofore been unexplained. It was explained to the Professor that the general line of work that he would be requested to perform would cover systematic and thorough analyses as follows:

First—The various forms of germs of fermentation actually found, or possible, in the production and development of wines.

Second—The varying results that might be obtained by utilizing different species of those germs which produce alcoholic fermentation, so as to determine their relative value to the industry.

Third—The kinds of ferments best suited for producing prompt fermentation, if required, and the means for obtaining the same.

Fourth—The effect upon fermentations of the use of gypsum, including also the investigation of its purity.

Fifth—An investigation of artificial tannin, that is or may be used in preserving wines, especially looking towards the production of pure tannin, as contained naturally in the grape.

Sixth—Analyses of standard wines of other countries, as produced at the vineyard before entering upon treatments for commercial uses. Also analyses of the same grades of wines as found in commerce, after treatment by merchants and dealers. (N. B. In order to obtain authentic samples for such work the Commission proposes to send to Europe for them, so that there may be no mistake when comparisons are made with our native products.)

Seventh—Analyses of wines produced in this State analogous to wines of similar character with which they are brought into competition in trade.

Eighth—A determination, by analytical experiments, of the relative percentages of tannin that should be contained in new wines to insure their good keeping qualities, it being assumed that no fixed percentage of tannin could be considered requisite, but that this substance must be needed in wines of different growths in different degrees, according to the varied composition of the same.

Other questions of like important character were suggested, but it was considered too early to formulate them clearly, and the matter of doing so was left with the

proper officers of the Commission, as the work progresses.

The annual election of officers of the Commission was next held, and the following officers were elected for the coming year: President, Arpad Haraszthy; Vice-President, Chas. A. Wetmore; Treasurer, Chas. Krug; Secretary, J. H. Wheeler; Chief Executive Officer, Charles A. Wetmore.

A communication was received from Mr. I. W. Taber, Photographer, notifying the Commission that it was his intention to produce and publish a photographic album, illustrating viticulture in California in all its branches, and tendering to the Commission copies of all photographs taken, a number of which were already made, and were presented with the communication. The thanks of the Commission were extended to Mr. Taber for his contribution.

Mr. Wetmore reported that some time ago, at the request of Mr. James De Fremery, he had procured characteristic samples of California wines, to be sent to Mr. De Fremery's son, now pursuing his studies at the University in Strasburg. This latter gentleman desired to procure them for analytical studies in connection with studies there being undertaken of these and other wines. As a result the Commission had received the analyses which had been published in the report of the German Chemical Society of Berlin, as follows:

From the Report of the German Chemical Society of Berlin. Eighteenth Year, No. 4.]

J. L. de Fremery. Analyses of two California Wines.

[Received February 19th. Presented at the meeting by Mr. A. Pinner.

The two wines whose analyses are here given came originally from Sonoma county, California. I am indebted for them to the kindness of Mr. C. Wetmore, Chief Executive Officer of the Board of Viticultural Commissioners of California, who obtained them from J. Gundlach & Co., San Francisco.

The Zinfandel (1881) is a red wine of violet-red (violettrotter) color, the Cabinet Gutedel (1878) a white wine of yellow color.

IN 100 CCM WINE WERE FOUND:		
	Cabinet. Gutedel.	Zinfandel.
Specific gravity	0.99073	0.09232
Alcohol percentage by weight	10.45	9.8
Extract	2.0908	2.1270
Mineral matter	0.1978	0.2218
Volatile acids (calculated as acetic acid)	0.0804	0.0972
Non volatile acids (calculated as tartaric acid)	0.4845	0.4110
Tartar	0.1570	0.1428
Free tartaric acid	0.0060	.....
Other free acids (calculated as tartaric acid)	0.5850	0.5325
Sulphuric acid	0.0384	0.0168
Phosphoric acid	0.0220	0.0193
Chlorine	0.0036	0.0054
Lime	0.0056	0.0084
Magnesia	0.0170	0.0160
Iron	0.0009	0.0010
Alumina	0.0003	0.0001
Potash	0.0973	0.1055
Soda	0.0049	0.0035
Glycerine	0.6133	0.5647
*Sugar	0.0660	0.1140
Polarisation	+0.2	+0.
Polarisation—after inversion	+0+0	.....

*The determination for sugars as first published was corrected in the report sent to the Commission.

The following determinations were made, but which I place separately on account of the want of reliability of the method:

	Cabinet. Gutedel.	Zinfandel.
Succinic acid	0.0063	0.0097
Malic acid	0.0324	0.0922
Citric acid	.....	.....
Boric acid	.....	.....
Salicylic acid	.....	.....
Sulphurous acid	trace	.....
Carbonic acid	trace	.....
Sulphurated-hydrogen	.....	.....
Nitric acid	.....	.....
Gum and dextrin	.....	.....
Tannin	0.0317	0.1554
Coloring matter	0.0085	0.0520
Fuchsin	.....	.....
Rosanin sulfonate of sodium	.....	.....

A long discussion was entered into by the Commissioners relating to the necessity of taking immediate action to determine to what extent, and in what particulars, the wines of this State are affected in Eastern markets by the production of spurious and adulterated compounds, and to ascertain such facts as may be necessary before any law relating to such matters is framed for presentation to the next Congress. In addition to this work it was considered desirable that an effort should be made to assist in the organization throughout the Eastern States of a larger and more extensive legitimate wine trade, and in connection with this, the dissemination throughout the East of information for the use of consumers, and for the benefit of our producers. It would be necessary to this end that some qualified person should go East to perform this work, as well as also to communicate with the proper departments in Washington, to make known the wants of our industry in advance of future legislation. Meanwhile there would be an opportunity for the same person to be present also at the exposition to be held at Louisville in August. After fully discussing the questions involved in these propositions it was agreed that, if practicable, the Chief Executive Officer should soon be directed to make this journey, and in the course of his work to deliver lectures in important cities throughout the East. The Committee having charge of this work will soon prepare instructions for the guidance of this officer, who will probably start East in about two weeks, and remain until the latter part of August. The Commission then adjourned.

HARES, RABBITS AND VINES.

EDITOR MERCHANT: Some time ago I found in different papers that hares will not touch vines which are sprinkled with aloe or fresh blood. I tried both, but the hares of the foothills seem not to be as particular as the hares of the valley—the mentioned notice came from Napa—here they have eaten up the very leaves on which were the dark spots of aloe or blood and as regarding to the kind they make no difference between *vitis vinifera* or *rupestris* and *riparia*. They spare only California, which is growing hereabout everywhere and therefore is nothing new to the hares.

By the way hare is better than rabbit as the ears are longer than the head, the points of the ears are black, not brown and they live above not under the earth in holes, which are the distinguishing marks of the zoologist. Respectfully, F. C. C. Auburn, Placer County, May 2, 1885.

[Our correspondent appears to be troubled with jack-rabbits. The only sure remedy is to fence them off.—Ed.]

A Viticultural Society has been organized at Cupertino, Santa Clara county, with J. C. Merithew, President and Chas. Stiller, Secretary.



The Best Spring Medicine and Beautifier of the Complexion in use. Cures Boils, Pimples, Blisters, Neuralgia, Scrofula, Gout, Rheumatic and Mercurial Pains, and all Diseases arising from a disordered state of the Blood or Liver.

SOLD BY ALL DRUGGISTS.

J. R. GATES & CO. Proprietors,
417 Sansome St., San Francisco, Cal.

DISTILLATION.

The following paper, prepared by George Johnston, for the San Francisco District Viticultural Convention, held at San Jose May 27th, 28th and 29th, 1885, was crowded out of the proceedings on the last day for want of time. It will appear in the regular report to the Commission.

DISCUSSION OF DISTILLATION.

Gentlemen:—In considering the matter of distillation the questions that naturally present themselves are: First, what has one got to do and second, how are we going to do it.

In answer to the first question, we have the fermented juice of the grape, the principal ingredients of which I will enumerate according to their boiling points, namely: aldehyde—the substance intermediate between alcohol and acetic acid—which is a limpid, colorless liquid of characteristic odor, and when strong is exceedingly suffocating. It has a density of 0.790 boils at 72 degrees Fahr. (22.3 C.) It is neutral to test paper, but acquires acidity on exposure to the air by the absorption of oxygen producing acetic acid.

Second—Acetic ether, a colorless, limpid, volatile liquid, having a refreshing, agreeable, ethereal odor, its specific gravity being 0.90 to 0.91 and its boiling point 165.2 degrees Fahr. (74 C.)

Third—Ethyl alcohol, the principal constituent of common spirit, which boils at 173 degrees Fahr. (78 C.)

Fourth—Water, boiling at 212 degrees Fahr. (100 C.)

Fifth—Amyl alcohol, the principal constituent of fusil oil, boiling at 269 degrees Fahr. (132 C.)

Sixth—Small quantities of essential and fatty oils and alcohols which in this article are unnecessary to enumerate.

Alcohol and water boil at a temperature corresponding with the proportion of each in the mixture. Thus a mixture containing one per cent of alcohol boils at 210 degrees and yields a vapor containing 13 per cent of alcohol; a liquor containing 10 per cent of alcohol boils at 198.6 Fahr. (92 C.) and yields a vapor containing 55 per cent of alcohol; a mixture containing 30 per cent of alcohol boils at 185 Fahr. (84.5 C.) and yields a vapor containing 78 per cent of alcohol; and a liquor containing 90 per cent of alcohol will yield a vapor containing 92 per cent of alcohol.

Of the above ingredients we want to retain by distillation the ethyl alcohol, the essential oils which give to the brandy the flavor and bouquet of the fruit from which it is made, and the acetic ether which gives a refreshing and agreeable odor. The other ingredients, the highly poisonous and offensive aldehyde and fusil oil we want to discard. To effect this purpose what description of still can we use? Will what is known as the continuous still be sufficient? No, for the reason that the aldehyde being lighter and more volatile than the ethyl alcohol will combine and be condensed with it, contaminating the spirit. The temperature in this kind of still can be kept so low that most of the fusil oil may be kept back and discharged with the waste, but the condensed spirit by this system will contain all the aldehyde. With the common pot still and repeated re-distillation the aldehyde and fusil oil may be separated by a man of cultivated taste and experience. The first and last part of the distillate must be put aside for re-distillation and the middle portion of the charge only selected as brandy.

These were the difficulties which led me to the construction of my distilling apparatus. I saw that the wide range of temperature at which the different ingredients boiled would, with a properly constructed column, enable me to carry over the aldehyde with only a small quantity of alcohol and that re-distillation could be carried to any desired extent by merely reducing the temperature in the ascending chambers of a properly constructed column. And by the use of the thermometer I could remove the result from the region of chance to one of absolute certainty.

It is sufficient to describe the apparatus by saying that it consists of the common still and worm with my column placed between. The column consists of seven or more chambers, each of which contains a coil of pipe commencing at the top of the column and continuing to the bottom, through which runs water. The vapors from the still enter the bottom of the column and in their ascent at each chamber encounter a coil of pipe which partly condenses it (the vapor), the condensed portion falling back on the diaphragm of chamber serves to enrich the succeeding vapors as explained in the first part of this article. By this means the vapors in each succeeding chamber of their ascent are increased in strength and reduced in temperature, until they reach the top chamber where a temperature is maintained, through which spirit of the quality desired only can pass.

In the early part of the distillation the poisonous aldehyde first appears, not alone, but combined with the ethyl alcohol, the temperature being in proportion to the quantity of each, as I have explained in the case of mixtures of alcohol and water; always bearing in mind that this mixture is aldehyde boiling at 72 degrees, and alcohol at 173 degrees, instead of alcohol and water. The temperature of the upper chamber of the column being the one which regulates the operation is kept low, the operator allowing it to heat slowly. The first vapor which goes to the worm-tub is aldehyde with some alcohol, this soon stops running. The water running through the column is reduced, the temperature rises two or three degrees and again the vapors pass through the worm, this time with less aldehyde, which gradually decreases until the spirit comes over charged only with the agreeable, refreshing, ethereal odor of the acetic ether, the essential oils which distinguish the fruit from which the wine was made and the ethyl alcohol.

At this stage of the operation we have disposed of the most formidable obstacle to perfect distillation—now we need only attend to the fusil oil, and here our mixture in the still consists of alcohol boiling at 173 degrees, water at 212, and fusil oil at 269, with resulting temperatures as explained with spirit and water.

The temperature is allowed to rise to 185 degrees or 190 degrees, or a few degrees more or less, according to the quality of the mixture in the still. The only care being to keep back the fusil oil, without preventing the aromatic oils from coming over with the spirit. This part of the operation must depend on the operator's judgment and taste, and the purpose for which the spirit is intended.

At a meeting of the California Wine Growers and Wine and Brandy Manufacturers Association held in Sacramento on January 20, 1873, I read an article on distillation, and presented a sample of

aldehyde which boiled at a temperature of 130 degrees Fahrenheit (54 C.) its specific gravity being 0.8936, corresponding with that of alcohol at 37 degrees O. P., which would boil at 183 degrees. This was the first time that as an important factor in brandy it was brought to the notice of the public to my knowledge. Of it the United States Dispensary says: "Forty-five to seventy-five grains dissolved in water and injected into the veins of a moderate-sized dog almost instantaneously arrests respiration and induces coma. In smaller doses it intoxicates and anesthetizes. Introduced into the stomach it irritates that organ, and it may even produce gangrene."

The Rye Vale Distillery who are using my process of distillation near Dublin, Ireland, in 1880 published a pamphlet on the latest improvements in the art of distillation, in which they say: "The presence of aldehyde to any sensible extent was not suspected until lately, when during the course of some exhaustive experiments, it was extracted in very considerable quantities, and it is to this substance perhaps, as much as to the fusil oil, that the acridity and harshness of new whiskies are due."

Professor Cameron, the eminent chemist and public analyst of Dublin, Ireland—perhaps the highest authority on all subjects connected with alcohol in the United Kingdom—states in his report on public health, 1880, in his paper on the "Toxic principles present in certain kinds of whiskey," that he is disposed to believe that it is to the presence of aldehyde as much as of amyl alcohol that the acrid flavor of new and especially of badly prepared whiskey is to be attributed. He also gives an instance of the deplorable symptoms affecting both mind and body which manifested themselves in a gentleman and his wife who were so foolish as to habitually make use of "poteen" whiskey, and which from the large amount of aldehyde and fusil oil it contains, more closely resembles our inferior, badly distilled brandy than any other spirituous liquor.

Of fusil oil, I only need quote the United States Dispensary, which says: "Amylic alcohol (fusil oil) as is shown by experiments on inferior animals, is an active irritant poison."

I need scarcely say that it is to the essential oil of the grape or other fruit from which the spirit is made, that it is indebted for its flavor. Some people will tell you that it is due to the poisonous fusil oil, not thinking that the flavor existed in the grape or other fruit before the fusil oil was formed by fermentation, and, although fusil oil is found in all fermented liquors, no two of them give the same flavor.

Acetic acid and aldehyde are found in all fermented liquors. They are inseparable from fermentation, but it is only when by careless or ignorant management they exceed the minimum that they become injurious. An excess of acetic acid in wines is a disease, and it may not be many years when it will be so considered, when a wine merchant or a consumer will no more buy a wine with more than the normal quantity of acetic acid, than he would decayed meat or sour flour.

With this column every grade of spirit from the common pot still product with one or more re-distillations to a spirit of 85 per cent O. P. can be produced. With a sound wine where little rectification is required, no water is run through the pipes in the column, the connections between the different chambers are opened and the spirit ascends without interruption to the worm. If a spirit of greater strength is required one or more chambers are closed and a small quantity of water is passed through the column. When if high proof spirit is wanted, free from flavor, all the chambers are closed and the upper chamber maintained at a temperature through which the desired spirit only can pass.

GEORGE JOHNSTON.



ISSUED FORTNIGHTLY ON FRIDAY MORNING BY

CHARLES R. BUCKLAND.

Editor and Proprietor.

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FRESNO.....H. C. WARNER,
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FRIDAY.....JUNE 19, 1885

RECOGNITION.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.

Proprietor S. F. MERCHANT.—*Dear Sir:* Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.

Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural interests in the State, an exponent of their views and able advocate of their interests, and moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished.

Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandise who wish to call our attention to their goods, aid us and other Viticulturists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.

Be it further *resolved* that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.

G. F. RIGGS, SECRETARY.

WINE MAKER AND CELLAR MAN.

A YOUNG MAN WHO HAS STUDIED IN A CELEBRATED college for winemaking and viticulture, and who has acquired his experience in the wine manipulation in prominent wine countries wants a position.

J. C. MAZAL.

Apply at the S. F. MERCHANT office.

BRANDIES.

M. Barsac, a gentleman from the Lower Charente District in France where he has been all his life engaged in establishments producing the brandies of that region, has come to settle in California. He hopes to occupy an establishment in this State where the production and perfection of brandy is specially aimed at. M. Barsac called at the office of the State Viticultural Commission during the week and examined samples of distillates that were shown at the last annual Convention. He expressed considerable surprise at the quality of some of the California products.

A special viticultural meeting will be held at Cloverdale on Saturday morning, 20th inst. Mr. I. DeTurk, Commissioner for the District, and Charles A. Wetmore, Chief Executive Officer, will both be present. The Secretary of the local club requests that all who are interested in viticulture should attend the meeting which, it is anticipated, will be very successful because of the frequent applications made to the Commission by viticulturists in the district for advice and suggestions.

PROFESSOR HILGARD'S COMPLAINTS.

Since our last issue we have received two letters from Professor Hilgard, which contain such hot-headed expressions that we have been in some doubt as to what we should do with them. The second one, however, indicates so much determination on the part of the writer to seek publicity for his complaints that we have concluded to gratify his desire, while regretting that, in doing so, we become the means of exposing a lack of dignity unbecoming to a gentleman holding a high position in the University. The letters referred to are as follows:

UNIVERSITY OF CALIFORNIA.

COLLEGE OF AGRICULTURE,
BERKELEY, June 6, 1885.

C. R. BUCKLAND, San Francisco: *Dear Sir:*—It is your undoubted privilege to discriminate, in the communications you publish in THE SAN FRANCISCO MERCHANT, in favor of the Viticultural Commission, Mr. Wetmore, or anybody else. But when you proceed to editorial comments of a personal nature, you become responsible for the truth or falsity of your allegations. Knowing how you are situated I am not disposed to judge harshly; but, before you subscribe to a charge of unprofessional conduct, as is done in your last issue, you should know what the facts are. In the course of the year I make from 400 to 500 reports of examinations of various kinds, and forward them on the letterheads of the my department. If any one undertakes to make displayed advertisement of such a report, whether on wines, waters, soils or yeast powders, what have I to do with it? I am by law required to render such reports "on the proper demand of any citizen of the State," for E. G. the first three. In vacation, the time being my own, I act as analytical expert when called upon. I report the facts as I find them, and if anybody is hurt or benefitted it is not my lookout, any more than it will be the newly-appointed State Analyst's, in similar cases, hereafter. The allegation is simply absurd, on the face of it, and did not, I imagine, originate with one who, like yourself, has had experience in the public press.

I await your reply as to the form in which this matter shall be rectified, whether by yourself editorially, or otherwise.

As to the other indictment it may stand on its own merits. Mr. Wetmore's monumental assurance in the premises, after what occurred last winter, cannot be done justice to by any brief statement, unless it be that the biter does not like to be bitten.

Very respectfully,

E. W. HILGARD.

EDITOR MERCHANT:—Deferring for the present all discussion of the fancy picture drawn by Wetmore, of the history of the appropriation for viticultural work, I claim the use of your columns for some comments on your editorial remarks regarding myself, in your issue of June 5th, under the head of "A Mistake," in which you charge me on two counts, with "unprofessional conduct."

As regards the first, viz: inclosing copies of an editorial from the *Pacific Rural Press* with a bulletin issued by my department, I reply that I have a right to disseminate, individually as well as officially, correct information regarding a transaction

in connection with which Mr. Wetmore has, in his apparently interchangeable capacities of individual, Executive Officer and "Viticultural Commission," taken every available means of enforcing his individual view of the case. If, unfortunately, the Viticultural Commission holds itself responsible for all these acts of Mr. Wetmore, then, and only then, the criticisms apply to that body. They were so well set forth in the said editorial (and not, as Mr. Wetmore states, *anonymous* article), that I thought it superfluous to formulate them over again, under my signature.

As regards the second count, viz: a displayed advertisement in several dailies, giving the substance of my statement of the results of a comparative examination of certain yeast powders, I reply that so far as I am aware, any one of the hundreds of statements of the kind furnished from my office every year, might be so used, without my being able to interpose an objection. I state the facts as I find them, and the recipient is entitled to whatever benefit he may derive therefrom, whether the subject be wine, mineral water, soil, or yeast powder. In vacation, it is my privilege, as it is that of every professor, to do private professional work; and the date of the above statement shows that it was so done. If there is anything unprofessional in this, I am in the company of every chemist of any repute in the United States.

E. W. HILGARD,

Mission San Jose, June 12, 1885.

As to the course of the MERCHANT, which the Professor considers worthy of criticism, we are at a loss to understand what he means. If there has been any discrimination in the past, it has been in his favor, as we have repeatedly refrained from passing comments on his work, when the public interest has really required that such should be done, notably in the instances of his persistence in preserving a plague spot of phylloxera on the University grounds, and in his unscientific methods, when publishing his opinions concerning the mercurial treatment of diseased vines, the influence of grafting stocks on periods of maturity of different varieties of vines, condemnation of the *Trousseau* as a Port wine grape, advice to *Muscat* growers, based on incorrect statements of fact, etc. etc. If the Professor desires us to review his work, we shall show conclusively that our discriminating silence has preserved for him a reputation, which he has not deserved. The mistake that the Professor makes continuously is in departing from truly scientific methods of research and statement, and in expressing autoeratic opinions in advance of thorough investigation and demonstration; in other words, to use common parlance, he almost invariably "goes off at half cock."

We have always desired to respect, and to assist in maintaining respect for the distinguished gentlemen who hold positions in our highest schools of learning; such men should be unassailable as to their methods and motives. If, however, any one of them persistently descends to adopt the motives of the quack doctor and the politician, and to squabble with the press, the manufacturers of yeast powders and others outside the sphere of University work, it may be questioned whether he is the right man in the right place. Now, we believe that Professor Hilgard's talents and attainments are sufficient to maintain him respectably as a Professor of agriculture; but it is not

given to one man to be not only a whole University in himself, but also the judge of commercial action and taste, an encyclopaedia of technical knowledge, the director, of public policy, and general fighting man of the University, obscuring the existence of all other authorities, whose duties connect them with that institution.

The Professor complains because we referred to his attempt to influence public opinion by circulating from Berkeley, in his official envelopes, a newspaper article reflecting upon the motives of the State Viticultural Commission at a time, when that body is charged by law with joint work with the Board of Regents, whose conferences were yet in progress; also to the nature of his report on certain baking powders, as unprofessional. We hold to our expression, notwithstanding his complaint, that it was unprofessional for him to ignore the existence of the Board of Regents, the only body authorized by law to treat on the subject of the joint appropriation with the Viticultural Commission; if, however, to use practically his own words, the Board of Regents has delegated to him the defense of their rights, then we retract on this count. As to the baking powder advertisement, we quote first the matter in question as it was published in the columns of newspapers, substituting blanks for the names of the two rival commodities between which he discriminates, as follows:

UNIVERSITY OF CALIFORNIA.

COLLEGE OF AGRICULTURE,
BERKELEY, January 31, 1885.

An analysis of — baking powder, and the — made by me, shows that — is composed of the best grades of cream of tartar and bi-carbonate of soda, and that it gives off, per pound, eighty cubic inches more of carbonic acid gas than does the —. The — was found to contain not only a very inferior grade of bi-carbonate of soda but it also contains a notable quantity of an objectionable ingredient, ammonia, which should never be admitted into our daily bread.

The — being so strongly alkaline, the biscuits made with it cannot be as readily insalivated and digested as those made with —.

E. W. HILGARD,
Professor of Chemistry.

As a private chemist, we see no objection to a Professor of Agriculture making authentic analyses of any product, provided that he submits the plain statement of his analysis, which is not done in this instance, leaving the conclusions concerning the revelations made to be drawn by those interested. We have been surprised that Professor Hilgard has not complained publicly at the reference to him in the advertisement as "Professor of Chemistry"—a title which does not belong to him; we have not assumed that he so signed himself. His "report" does not contain the statement of an analysis, but embodies an opinion as to the relative wholesomeness of two rival products, which, as a contemporary journalist says, could only have been given by a Professor of Hygiene. The phrasing of the report suggests to any practical mind that the writer knew that he was composing an advertisement instead of a scientific report and understood the intention of the party who paid for or procured this "report" from a University Professor; any other conclusion would be consistent only on the supposition that the Professor is a fool. As he is not a Professor of Hygiene, as suggested by our contemporary, and as we do not think he is a fool, which was our first thought, we see no reason for retracting our expression "unprofessional," espe-

cially in view of the fact that he is the distinguished head of the Agricultural Department of our State University, the credit of which should not be cast at the feet of rival grocers.

Rival merchandising has of late brought the whole profession of chemistry into disrepute, by demonstrating that so-called scientific reports can be procured on the payment of good fees to support opposite sides of the simplest propositions. The public will not be blamed, if it learns either to despise the pretended accuracy of such reports and to doubt the value of professional knowledge, or to consider professional opinion as a commercial commodity for sale to the highest bidder.

Before publishing the letters of the Professor, which cast reflections upon the Executive Officer of the Viticultural Commission, insinuating that his statement to the board of Regents was a "fancy picture" and that he has been acting without express authority of the Commission, we have permitted that gentleman to have the opportunity to make a reply, which is furnished to us, as follows:

REPLY OF THE EXECUTIVE OFFICER.

EDITOR MERCHANT:—I think that Professor Hilgard is unwise in attempting to provoke a personal controversy. For some time past I have known of letters written by him, containing personal references even more quarrelsome in their nature than those, which you have received. I have declined to notice them publicly, because there are more important things to consider, which leave little time for useless polemics. As he seeks now a personal quarrel before the public, his position is such that his remarks cannot be ignored; but I will try to avoid on my own part any cause for further publications of this kind.

Concerning my action in relation to the joint appropriation, I need only refer to the reports of meetings of our Board to satisfy the Professor that it is with the Commission, and not with me personally, that he must quarrel (if he desires such amusement), as I have acted entirely under instructions, and, in my correspondence with the Board of Regents, I appear only as a Chairman of a Committee, which has been instructed to present the views of the Commission.

As this joint control of an appropriation is a matter entirely belonging to this Commission and the Board of Regents, I would suggest to the Professor that he should address his correspondence on the subject to those who have the authority to act, and not to the newspapers, unless he desires to relieve the Regents of their responsibility.

His reference to our statement of the action of the Legislature opens a question of veracity, the answer to which is contained in the following letters from members, who knew the true history of the joint appropriation.

Hon. W. H. Parks, speaker of the Assembly and member of the Board of Regents, writes as follows:

Mr. C. A. Wetmore: DEAR SIR:—Yours of the 13th calling my attention to your letter published in the MERCHANT addressed to Dr. J. H. C. Bonte of the Board of Regents is at hand.

I think that you have stated the history of the legislation appropriating \$10,000 for "viticultural experimental analytical and scientific work" correctly.

In addition to there being a conflict between the Viticultural Commission and the Department of Agriculture at the University as to who should have control of the appropriation as well as to where the wine cellar should be located, there was a strong

opposition by some of the members of the Assembly to locating a wine cellar upon the University grounds. It was urged by them that "let it be known throughout the State that a wine cellar had been located upon the University grounds and become a part of that institution," that it would prejudice a very large proportion of the people against sending their sons to the University, and my understanding was that by a division of the appropriation the wine cellar was to be located at San Francisco to meet the objection urged. I should not myself as a Legislator or a Regent ever favor connecting a wine cellar with the State University, for reasons that I gave you at the time the bill was under consideration.

I am yours respectfully,
W. H. PARKS.
Marysville, June 15, 1885.

Hon. W. B. May, who was Chairman of the Assembly Committee on Ways and Means, and the author of the general Appropriation bill, writes:

Charles A. Wetmore, Esq., State Viticultural Commission: DEAR SIR:—I hand you copy of SAN FRANCISCO MERCHANT, containing letter by you to our friend, Secretary Bonte of the University. I am intimately acquainted with every phase of the question as it was presented to the Ways and Means Committee last winter, and your statement is critically exact. For reasons not needful to set forth in this letter, for a *time* any appropriation on the subject in question was in *peril*, (i. e. any to be used at Berkeley) and the matter was happily settled as I thought by our final action—covering the *scientific* work to be done at the University and the *practical* at San Francisco under one item of appropriation—"joint control," chiefly meaning the joint division of the funds. I suppose no one would suggest that the Legislature intended to give the Viticultural Commission a place with the Regents in their councils, or to mock them with dignities that ended with a name.

I assure you no vote of mine could have been had for a dollar to construct an experimental cellar at the University.

1114 Clay street. Wm. B. MAY,

San Francisco, June 15, 1885.

Hon. H. A. Pellet, of St. Helena, who was Chairman of the Assembly Committee on Viticulture and Viniculture, writes:

ST. HELENA, June 15, 1885.

Chas. A. Wetmore, San Francisco: DEAR SIR:—In answer to your favor of 13th inst. I would say that I have carefully read your letter to the Secretary of the Board of Regents of the University, published in the S. F. MERCHANT, and that it is a correct statement of the action taken by the Committee on Viticulture and also of the final action of both branches of the Legislature in regard to the appropriation made and intended to be used jointly by the State Viticultural Commission and the University.

The Committee on Viticulture acted under the impression that by recommending the passage of the bill in question, it would be satisfactory to all parties. It is to be regretted that any dissatisfaction should have arisen upon this subject and I entertain the hope that mutual concessions will yet bring this vexed question to a happy termination.

Respectfully yours,

H. A. PELLET.

Hon. J. F. Black, of Alameda county, was a member of both the Committees of Ways and Means and Viticulture; he writes:

Charles A. Wetmore, Chief Executive Viticultural Officer: DEAR SIR:—Your favor received, together with a copy of your letter to the Secretary of the Board of Regents. I have read the letter and do not hesitate to say in reply that your statement of the action taken by the Legislature is correct in all particulars. Furthermore, I would say, the question was raised in both the Committees on Viticulture and Ways and Means about the propriety of locating a wine cellar at Berkeley, and had it not been for your refusal to consent to it, those members of the Assembly who were interested in viticulture, would have insisted on placing the entire control of this fund under the State Viticultural Commission, where it properly belongs.

It was the opinion of those most competent to judge of the matter, that the viti-

cultural work at the University should be limited to scientific instruction and investigations, and that all technical questions of a practical nature, should be controlled by the Viticultural Commission.

Yours truly,
Jos. F. BLACK,

Pleasanton, June 13, 1885.

The Board of Regents having refused to ask for the appropriation for a winery at Berkeley, and the Legislature having by direct vote refused to grant it, while at the same time granting to Professor Hilgard's department six thousand dollars specially for viticultural work and eighteen hundred dollars for an agricultural laboratory, I fail to see any good reason why he should now assume to be superior not only to the law but also to the two Boards, which are entrusted with a joint appropriation. If he cannot trust the Regents to protect his interests and to direct the scope of work, which he is to perform, he will not be likely to make better progress by provoking a personal controversy with this Commission, from which he has to the present time received funds for use at Berkeley, information and the use and knowledge of books to guide his work, and money for his own pocket. We have no desire to interfere with his duties, as Professor of Agriculture, and no intention to permit him to obstruct us.

CHAS. A. WETMORE.

We have attempted to answer the Professor's complaints without going outside of the questions raised by him and unless he desires to open some new controversy we shall consider our space and time too valuable for further discussion of the matter.

WHAT A CONTEMPORARY THINKS OF IT.

From an editorial article of the *Herald of Trade* we extract the following:

We claim superiority for California in many things over many States, and wish to prove to the world that we are right in our belief, and we have hoped that even our University would some day take its place in the very foremost rank of Universities, not only of the United States, but of the world. But this cannot be if unfit men are placed in control or if its Professors are incompetent or wanting in that dignity which becomes their position. We are led, regretfully, to make these remarks because we have seen in the advertisement of the agents for a certain baking powder, a letter purporting to have been written by a well-known Professor of our University, which, on the face of it, appears to be a purchased puff. If this came from some chemist who, holding no official position, thought, as some experts who go on the witness stand in our courts, and most newspaper men, that he had a right to certify to opinions in favor of the side that paid him best, we should not notice it. But we are indignant, and so should every friend of the State University and of truth and science be righteously angry, when using the very paper of the State with its printed headings, a Professor stoops to penny-a-lining and undertakes while upholding one article of merchandise to depreciate another, knowing that his purchased opinions will be used for selfish and mercenary purposes.

* * * We can hardly suppose that Mr. Hilgard signed himself Professor of Chemistry; probably the advertiser added that line, for though Mr. Hilgard does claim to be an agricultural chemist, he does not hold the office of Professor of Chemistry at the University. That position is held by a much more modest and we believe, a gentleman of far superior attainments, we refer to Mr. Rising. But did Mr. Hilgard pen this precious document as a Professor of Agriculture, as a Professor of Chemistry, or as a Professor of Hygiene? He says he analyzed both powders, why then did he not content himself with giving the analyses instead of his opinions in the form of a newspaper puff? We do not understand a chemist who has made special analyses of two compounds,

talking of best grades and inferior grades of bi-carbonate of soda. Those are trade terms and not scientific. A chemist would tell us of the percentage of impurities, that is if he knew how to ascertain it, and had really made the analysis he mentions. We do not know whether there is any ammonia or not in the article of merchandise he condemns, but we may venture to differ with a Professor of Agriculture on the question whether ammonia in small quantities is injurious or not. * * * But at any rate, before a witness claims credence for an opinion such as that, a biscuit made from a certain powder cannot be as readily insalivated or digested (sic) he ought to establish his claims to be recognized as an expert in hygiene. Certainly, his self-assumed title of Professor of Chemistry or his actual one of Professor of Agriculture, involving the analysis of soils, waters, etc., does not necessarily make him an authority on what he has written about baking powders. It is a more serious question than one of taste. It is one of principle, which the Regents of the University would do well to consider, how far a Professor of that institution can go in taking sides between two rival manufacturers. Certainly there seems a ridiculous incongruity between a State University and a baking powder fight.

VITICULTURAL CONFERENCES.

The viticultural conferences of Montpellier have elicited several important data. Protection against phylloxera by American stock in the vineyard is studied practically and scientifically in that region, and under the direction of men of the highest reputation, such as Messrs. Planchon, Focq, Mares, Bazille and Vialla. The experiences communicated from such a source are reliable. The wine from the Jacquez (Lenoir) vine of 1884 is generally superior to the 1883 crop. Aided with plaster and tartaric acid, intelligent manipulations can render the Jacquez wine good. Investigations showed singular modifications in the wine according to the soil in which it grows. Applicable to all wines, this is particularly true of the Jacquez. From deep alluvial soil the coloring matter of this grape is blue, in white clay soil it is yellowish, on hill lands the color becomes red. If the yellowish tint is not satisfactory, it can be metamorphosed by plaster. Unfortunately, the Jacquez vine is liable to be hurt by mildew. Grafts on Jacquez of Alicante Bouschet, Carignan, and Aramon have given good results. Not so, however, in white, poor soils, in calcareous soil, and in moist low lands. Grafting on Jacquez must take place early, and for a year or two long pruning is desirable.

The quality of 1884 Othello wine is good, but several tasters were undecided in their opinions. It is a wine which cannot well be blended with others. Triumph wine found also some objections, still it is a good white wine. The Solonis vine was found proper to graft Terret and Carignans on. The Riparia vine is adapted best to argil-siliceous and argilo-calcareous soils. Decidedly phylloxera-proof this vine suffers from cryptogames and particularly from anthracnose. Heavy sulphuring at the beginning of vegetation and also the use of blue vitriol is recommended to guard against these enemies. The Berlandieri vine seems phylloxera-resistant. Vialla is a variable vine influenced to the highest degree by the soil in which it is planted

Almond trees are being largely grafted over into other varieties. Among those tried are apricots on to almond which have proved a decided failure. They do well for a year or two, but then they break off short where the union was made. Plum on to almond however, is more of a success.

PURE WINES.

Remarks of Honorable A. A. Sargent.

[From the Report of the Third Annual Viticultural Convention.]

The President in calling upon the next speaker, the Hon. A. A. Sargent, formerly United States Senator and late Minister to Berlin, said: "In calling upon Senator Sargent I wish to recall the fact that he has been the staunch friend of viticulturists in California. He has assisted us in every manner in his power. He has never left a letter unanswered or request go by without using his efforts to shield us from undue taxation and discrimination."

Hon. A. A. Sargent upon being introduced was received with applause and then spoke as follows:

"Mr. Chairman, ladies and gentlemen, if I understand correctly the topic under discussion it may be compressed into the question, whether the general use of pure wines in American communities would tend to the health of the community and to its morals. I believe that is the proposition. Perhaps any testimony that I might give in this matter would have no value further than I may have been able to form some conclusion during my visit to different European countries as to the facts in this respect and the beverages consumed there. I am aware that back of any moral question there is an immense possibility of greatness, confined within this industry. Comparison has very naturally been made between California with its dimensions, its climate, its possibility for the culture of the vine and the making of wine with France, having about the same area and the same capacity in this respect. France produces somewhere about \$300,000,000 per annum of wine and this enormous industry gives employment directly and indirectly to about one-eighth of the population of that country. Now if California, to meet this constant and great demand which the world offers in the way of a market, can share largely in the profits of \$300,000,000, we would be disposed to assume that that must be right which is profitable, but I think that we can look beyond that view of the matter, beyond the mere fact that by means of this industry becoming greater year after year our State may become more prosperous, and inquire whether really its effect upon the moral and physical condition of our people will be deleterious or beneficial. Dr. Stebbins has very well said that the drink of the average American is fiery and strong; it is whisky and gin and brandy. I find the same condition of things existing in England and Scotland. After I had visited Germany and especially southern Germany, Italy, Belgium and France, and observed the custom of the people there in this respect—it was a matter of curious observation to me—I went into a country more resembling ours in population, England and Scotland, and I found there the same habitude which we have and I found the indulgence in hot and fiery drinks more prevalent than it is with us; intoxication more frequent. I was in one important city in Scotland on a Sunday. I arrived on Saturday night and stayed over Sunday and I found more drunkenness among the men and women, and I may say children of both sexes, than I had seen for months in New York. I was aware of the fact, as everyone is, that they use these fiery liquors, this Scotch whisky and if I wanted an argument against the use of beverages of that kind I found it there. I spent several months in various parts of France and wine is very common. No meal seems to be complete without it, especially the second breakfast and dinner. Why, to the laborer upon the street or in the field, with perhaps his bit of bread and cheese or an onion or some simple vegetable, his half bottle of wine seems to be a necessary adjunct and seems by him to be considered an important item of his food. At fashionable dinners and dinners of all kinds wine seems to flow very freely and I wondered myself what could be the effect upon these people, of the continual drinking of wine. I am not much of a wine drinker myself, I do not seem to need the stimulants which others need. I have not got into that habit and therefore it was a novel question to me, "what is the effect on this community of great wine drinking." I could not see that the effect was any more than the effect on us of the drinking of tea

and coffee. At all of our meals we drink tea and coffee. The wine seems to be drunk in the same way. You do not see the people reeling about the streets intoxicated. Perhaps after a great dinner there might be a little rapidity of conversation, but nothing more and it has not that degrading effect, which is found in the heavy drinks which the people indulge in in our saloons. I saw the same thing in the south of Germany, Switzerland and Belgium. The conclusion I reached was that it was not deleterious to the health of the people or injurious to their morals. That is it had a different effect upon them from what the drinking of strong liquors has among us as I have no doubt the test can be borne by many who have made the same observations as myself. Now I am entirely in accord with my friend Mr. Stebbins that we can substitute for the liquors in America the wines that are made here and in France, Spain, Switzerland and Southern Germany. I have been told by those who have traveled abroad and have used wine very freely that the desire for liquors, wines or any kinds of liquors, is much less in America than it is in Europe. I remember one instance of a gentleman in my employ in Berlin who was accustomed to his half bottle of wine at dinner who visited the United States and after his return I said to him "you did not find wine drinking so general in America" and he said "I did not care for it myself, I got out of the way of it." There is something in our atmosphere, or in our surroundings which makes strong drink more dangerous than it is in a more humid climate, and it has an effect upon the system, which leads a person to desire it less, for I believe that a danger sends its warning in advance. The most formidable use of liquors must be the stuff dispensed at the bars and I have no doubt that if light wine can be substituted for them that danger will disappear, and I have no doubt that if it is substituted bars will disappear. Now if we could dissuade men from drinking strong liquors and induce them to drink a light, healthful article of wine, it would tend towards the eradication of all this mischief.

I wish to say, as I mentioned before, that I believe you are engaged in a beneficial enterprise in this State, not only in the prosperity which you will bring to it, but I believe if you succeed in making a pure article of wine and getting it introduced in the community that you will be a greater auxiliary for temperance than any prohibition party or prohibitionists can be. [Loud applause.]

BARON VON MUELLER.

Baron Ferd. Von Mueller, the distinguished Government botanist and authority on horticultural and viticultural matters, of Melbourne, Victoria, writes to our Chief Executive Viticultural Officer as follows:

"Let me express my best thanks, dear Mr. Wetmore, for your considerate attention of sending me the important volume on viticulture, just issued by your Commission. It is replete with new information and will be of great advantage to me in my departmental engagements. If a copy of the first annual report could yet be obtained, I should be most beholden to you for it."

With this note the Baron sends copies of some of his *Index perfectus ad caroli Linnaei species plantarum* and notes on the "phytography of the New Hebrides."

Protection from Mildew.

Mr. A. Bouffard has invented the following method of applying sulphate of copper to vines attacked by mildew. The stakes to which the vines are tied should be prepared by plunging them for three or four days into a vat which contains five pounds of sulphate of copper to 22 gallons of water. The stakes must be wholly submerged, and not allowed to float on the surface; no tools or vessels made of iron must be used in the operation. The stakes must be then drained and dried in the open air. Experiments have been made on various kinds of wood, in order to show which absorbs the largest quantity of sulphate of copper when thus treated, and it has been proved that while

the beech and the pine absorb about a pound to each cubic foot of wood, the elm and the poplar each absorb about 20 ounces, and are therefore more suitable than the former to be used as vine props. Which-ever kind of timber be employed it should in preference be used shortly after the tree has been felled, for seasoned timber loses much of its virtues.—*Wine Trade Review.*

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DAILY CALL, OCT. 18, 1883.

THE WINE PRESS AND THE CELLAR.—A manual for the Wine Maker and the Cellar Man, is the title of a work just published, from the pen of E. H. Rixford. The work, the author says in the preface, is the result of research by himself, chiefly for his own benefit, and in going over the literature of the subject of wine making, he failed to find a work in the English language which is adequate to the needs of the practical wine maker. The book is intended to supply the deficiency. Elaborate statistics of the California wine product are given. Besides the preface, the work contains twenty chapters, each embracing a distinct subject relating to the manufacture of the various wines and putting it up for market; defects and diseases of the liquor; mixing wines; analysis, etc., with forty-two illustrations in all. The processes begin with the gathering of the grape, following each step and the processes attending it, in the manufacture; treating of the various qualities and the causes upon which these various differences depend. The book contains 240 pages, and is thoroughly indexed.

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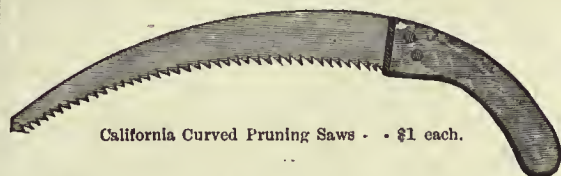
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TO NEW YORK.				
MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
G, in diamond, New York	Lachman & Jacobi	20 barrels Wine	980	\$ 416
E L, New York	"	15 barrels Wine	744	316
F A, New York	"	25 barrels Wine	1239	495
P L, New York	"	8 barrels Wine	394	207
E C, New York	"	10 barrels Wine	492	221
J B, Hoboken	"	5 barrels Wine	241	143
E B & J, New York	"	125 barrels Wine	5980	2363
H, in diamond, New York	"	5 puncheons Wine	802	320
B D & Co., New York	B Dreyfus & Co.	136 barrels Wine	6312	2520
B B, New York	"	10 barrels Wine	483	180
H R, New York	"	3 barrels Brandy	153	350
M & M, Paterson	"	11 barrels Wine	548	400
F Bros., Brooklyn	"	10 barrels Wine	494	225
J L., Lawrence, Mass	"	12 half barrels Wine	318	235
L V L & Co., Boston	"	3 puncheons Wine	369	300
F, in diamond, New York	J Gundlach & Co.	11 barrels Wine	524	264
C S, Union Hill	"	2 barrels Wine	97	43
K & F, New York	Kohler & Frohling	157 barrels Wine	7640	4500
R B Bamsile, N C	Fleming & Stetson	1 barrel Wine	50	100
F Pope, Boston	S Lachman & Co.	1 cask Wine	61	167
A, in diamond, New York	"	5 barrels Wine	233	93
A F, New York	"	10 barrels Wine	477	288
J S, New York	"	5 barrels Wine	235	190
F J P S N, New York	"	10 barrels Wine	475	248
Total amount of Wine			29191	\$14238
Total amount of Brandy			153	350

TO MEXICO.				
J B, Sayula	S Lachman & Co.	2 half barrels Wine	112	100
M L, Salina Cruz	Cabrera, Roma & Co.	6 barrels Wine	203	182
H V, Salina Cruz	"	5 half barrels Wine	150	150
T K, San Blas	I Outte	1 case Wine (Samples)		
A V, Mazatlan	"	6 barrels Wine	360	222
C O G, Mazatlan	L F Lastreto	1 keg Wine	10	9
L M, Mazatlan	T V de Laveaga	6 octaves Wine	110	78
	"	1 half barrel Wine	26	24
O F, Manzanillo	Thannhauser & Co.	2 kegs Wine	32	25
Total amount of Wine			1003	\$801

TO CENTRAL AMERICA.				
H G, San Juan del Sur	Stoekton Milling Co.	2 casks Wine	120	80
M C, La Union	Urruela & Urioste	2 kegs Wine	24	22
F V, Corinto	Cabrera, Roma & Co.	24 cases Wine	120	90
	"	1 keg Whiskey	9	27
Total amount of Wine			264	\$192
Total amount of Whiskey			9	27

TO GERMANY.				
C D, Hamburg	Walter, Schilling & Co	4 cases Wine	20	16

MISCELLANEOUS SHIPMENTS.				
DESTINATION.	VESSEL.	TON.	GALLONS.	VALUE.
Mexico	Newbern	Steamer	8183	\$ 3653
Altata	Twilight	Schooner	781	549
Victoria	Empire	Steamer	15	12
China	City of New York	Steamer	117	75
Honolulu	Alameda	Steamer	117	96
Total shipments by Panama steamers			30,640 gallons,	\$15,624
Total shipments by other routes			9,213 "	4,385
Grand totals			39,853	\$20,009

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INTEMPERANCE.

Remarks of Dr. J. D. B. Stillman.

[From the Report of the Third Annual Viticultural Convention.]

The following communication from Dr. J. D. B. Stillman, who was expected to address the Convention on the last afternoon of the Session, but who was unexpectedly crowded out at that time, was submitted immediately after the adjournment and is placed in this report as a part of the proceedings, on account of its value as expressing the opinion of a gentleman of rare culture, long experience as a medical practitioner, great and varied observation as a traveler and of such character as is best esteemed, where he is best known:

Chas. A. Wetmore, Esq.—DEAR SIR: You expected me to continue the discussion on the relation of wine production and temperance on the last day of the Viticultural Convention in this city. For sanitary reasons I did not go out in the evening, but as you desire to hear from me and I have no reluctance to put myself on record on this great social question in as few words as possible.

More than half a century ago I enrolled myself as a foe to intemperance as it was then understood. I have never changed my position on that question though the question has changed. As a physician I could not follow the society into teetotalism and the later change to the extreme position now held by the prohibitionists, a position directly antagonistic to the principles on which our political liberties are founded. There must be a limit to the power of majorities, else the form of our Government opens the way to the most dangerous tyranny known to man for we would not have to war upon our tyrant alone, but more than half the body politic and the same power that to-day would prohibit the use of all alcoholic beverages may to-morrow be used to compel their use by all if it shall seem for their good, or to use the familiar illustration of Stuart Mill in his essay on liberty: "If a majority of the people believe that the eating of pork is injurious therefore the liberty of the minority should be invaded and its use prohibited."

This question of prohibition is the legitimate outgrowth of the influence of our New England forefathers, which found expression in the Blue Laws of Connecticut. This dangerous doctrine is found only in the path of Empire as marked by the footsteps of the Puritans; wherever they have migrated there you find it. If a poor laborer returning home from a day of toil drinks too deeply and lays down by the wayside to sleep off the narcotism in this cosmopolitan city, you wake him up and conduct him to prison from which he can escape only by paying the greater part of a week's earning as a fine for an offense in which he harmed no one but his family and you inflict a greater wrong upon them by robbing them of their bread.

It is not by the spirit of intolerance that this great social evil of intemperance is to be met. Stimulants have in some form been in use in all ages and among all people, savage and civilized. It is to be assumed therefore that their use is founded on a law of our constitution. Should we wage a war upon this law by prohibiting their use or sale (which are equivalent terms)? Or shall we recognize this law and so direct the appetite into harmless channels when the desired ends may be gained with the least injury to the individual and to Society?

The form of stimulant used by the mass of any people will be that which is the most cheaply obtained; by the Celt and Scandinavian it will be the product of fermentation and distillation of the cereals. Among the Latin races which occupy the lands where the vine flourishes, the appetite is best gratified by the products of the fermentation of the grape to the exclusion of every other stimulant. The agreeable combination of acids and astringents with the aroma create a desire for them independent of their stimulating effect which is not strong enough to produce drunkenness; whereas the whisky drinker drinks only for the influence on the brain

In the course of my life it has been my lot to travel much in foreign lands. I have observed that in all lands where the cheapest stimulants are produced by the fermentation and distillation of grain there is the most drunkenness. Scotch whisky must be fatal stuff! I saw in Scotland at the birthplace of Robert Burns, on the banks of Bonny Doon, at the breaking up of an encampment of volunteers, more dead drunks than it was ever my lot to see in all my life. During several months spent in Italy where wine to the amount of hundreds of millions of gallons is consumed annually, I never saw but one man drunk. In France where the children of the poor are put upon a diet of bread and wine as soon as they are weaned, intemperance is very infrequent. I am firmly convinced that the true remedy for drunkenness is in the principle of substitution and not prohibition, the substitution of wine with enough of alcohol to preserve it, as in the case of *dry wines* or *beer* as used by the German races; and I am as firmly convinced that the principle of prohibition of the sale of any alcoholic drink as urged by bigots, will result in greater evils than they hope to eradicate, and will be resisted to the bitter end by every man who loves his liberty more than life.

J. D. B. STILLMAN.

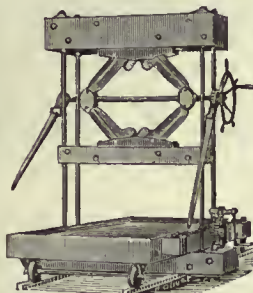
MEEKER SUN FRUIT DRIER

One of these Driers is now working on the Dent fruit ranch, about a mile north of Los Gatos, on the San Jose road. Every facility will be extended to those interested in Fruit Preservation, to examine and test its excellent working qualities, and note carefully its thoroughly economic principles of operation. As to the superb quality of its product of fruit, when visitors see it, they will wonder why they have so clung to the wrongful system of sulphur bleaching, when Nature, properly assisted, will do a perfect work without it, and produce a quality of fruit vastly superior, as well as more beautiful in appearance, and at the same time perfectly healthful as the choicest food. While the cost of production is much less.

Samples of fruit can be seen at the Drier near Los Gatos; also at Factory in this city. No Sulphur Bleaching. Prices given on application.

W. A. MEEKER,
Fifth and Bryant Sts., S. F.

WORTH'S IMPROVED PATENT Combined Toggle Lever —AND— SCREW PRESS.



I desire to call the attention of wine and Cider makers to my Improved Press. With this Press the movement of the follower is fast at the commencement, moving one and a half inches with one turn of the screw. The last turn of the screw moves the follower one-sixteenth of an inch. The follower has an up and down movement of 20 inches, with the double platform run on a railroad track. You can have two cubs, by which you can fill one while the other is under the press, thereby doing double the amount of work of any other press in the market. I also manufacture Horse Powers for all purposes, Ensilage Cutters, Plum Pitters Worth's System of Heating Dairies by hot water circulation. Send for circular. **W. H. WORTH, Petaluma Foundry and Machine Works, Petaluma, Sonoma County, Cal.**

Testimonials from I. DeTurk, Santa Rosa; J. B. J. Portal, San Jose; Ely T. Sheppard, Glen Ellen; Kate F. Warfield, Glen Ellen; J. H. Drummond, Glen Ellen; Joseph Walker, Windsor; John Harknean, Fulton; Wm. Pfeffer, Gubersville can be had by applying for printed circulars.

REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and San Francisco, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country.

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the Bernel Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

FINE VINEYARDS

IN SANTA CLARA VALLEY,

— FOR SALE BY —

T. H. CORDELL & CO.,

28 North First St. } & { 873 1/2 Market St.
San Jose. } San Francisco.

\$22,000. 80 ACRES IN THIRD YEAR. OVER 65,000 vines of best varieties. Staked. A very fine property at a bargain.

\$3,000. 10 ACRES IN FOURTH YEAR. Near Los Gatos. Fine varieties, beautiful view and a good place.

\$10,000. 40 ACRES ON NORTH SIDE STEVENS CREEK ROAD. Excellent land and fine varieties. Set last Winter.

\$7,200. 36 ACRES ON MAIN ROAD IN SECOND YEAR. Splendid land. Good neighborhood.

We have a number of places with Vines and Fruit Trees for sale. Also Orchards and Orchard Lands.

Call at Office or write for full particulars. Respect'ly

T. H. CORDELL & CO.

Winery For Sale.

— THE —

BERMEL WINERY,

And Three Acres of Land,

SITUATED CORNER WEST AND GRANT STS.,

Healdsburg, Sonoma Co., Cal.

On Line of S. F. & N. P. R. R.

Cellar under ground—capacity 40,000 gallons—capable of being enlarged to any capacity at small cost. Outfit complete to carry on the business. Dwelling and out-houses in good repair. Location most desirable in the State.

For further particulars apply at the office of the S. F. MERCHANT, or to

GEO. M. THOMPSON, Agent,
Healdsburg, Cal.

MOULTON & CO.,

REAL ESTATE,

MONEY AND INSURANCE BROKERS,

HEALDSBURG, SONOMA CO., CAL.

A large quantity of the FINEST GRAPE LANDS in the County are now in the hands of this Company for sale.

A list of Russian River bottom lands and red gravelly hill lands SPECIALLY ADAPTED TO VITICULTURE, will be forwarded on application.

Buyers should visit Healdsburg before settling elsewhere.

Office in the Sotoyome Hotel,
Healdsburg.

For further particulars apply at the office of the S. F. MERCHANT, 323 Front street, San Francisco.

FROST & GILMAN,

REAL ESTATE BROKERS.

OFFICE 529 1/2 FOURTH STREET,

Santa Rosa, Cal.

Farms and Stock Ranches for sale and to exchange for city property. VINEYARD LANDS A SPECIALTY. A list of properties particularly adapted to Grape Culture forwarded on application, and on file at the office of the S. F. MERCHANT, 323 Front street, San Francisco.

FRESNO LAND OFFICE.

Choice Farming, Fruit and

Vineyard lands

Improved or Unimproved.

With or Without Water for Irrigation.

FOR SALE,

IN SMALL OR LARGE TRACTS,

Terms Easy.

For maps, circulars, etc., call on or address

W. P. HABER, Manager,

Or Fresno, Cal.

PACIFIC COAST LAND BUREAU,
22 Montgomery St., S. F.

RAILROAD LANDS

— IN —

NEVADA, CALIFORNIA AND TEXAS.

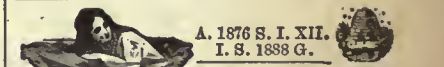
FOR SALE ON REASONABLE TERMS

Apply to, or address,

W. H. MILLS, JEROME MADDEN,
Land Agent, Land Agent,
C. P. R. R. SAN FRANCISCO, S. P. R. R. SAN FRANCISCO.

— OR —
H. B. ANDREWS,

LAND COMMISSIONER, G. H. & S. A. RY. CO. SAN ANTONIO, TEXAS



A. 1876 S. I. XII.
I. S. 1888 G.

The Industrious never Sink.

GUY E. GROSSE, Broker in Real Estate
Ranches, Residence, Business and Manufacturing Property Bought and Sold on Commission.

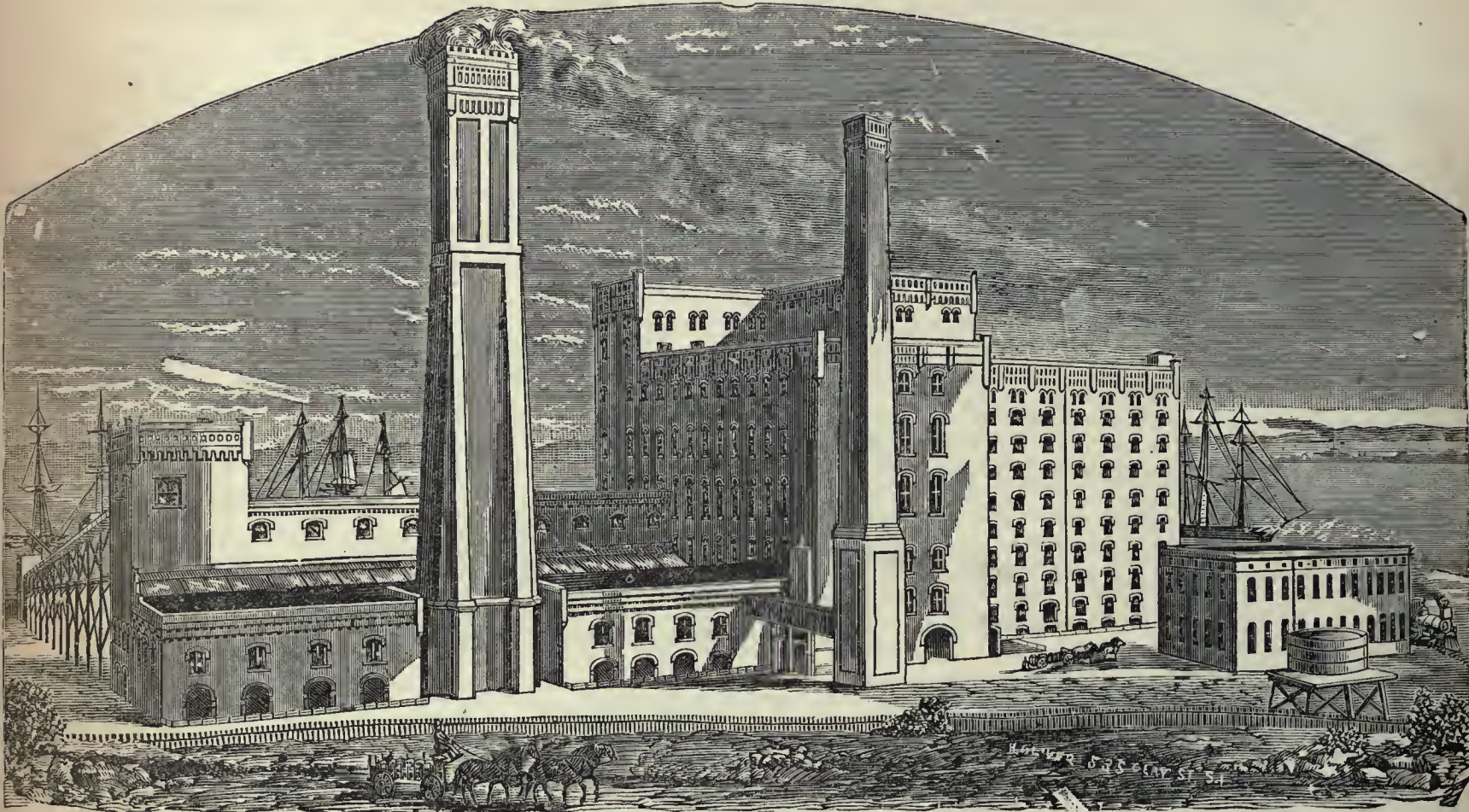
Ann Publisher of "Sonoma County Land Register and Santa Rosa Business Directory."

Office, No. 312 B St., SANTA ROSA, CAL.

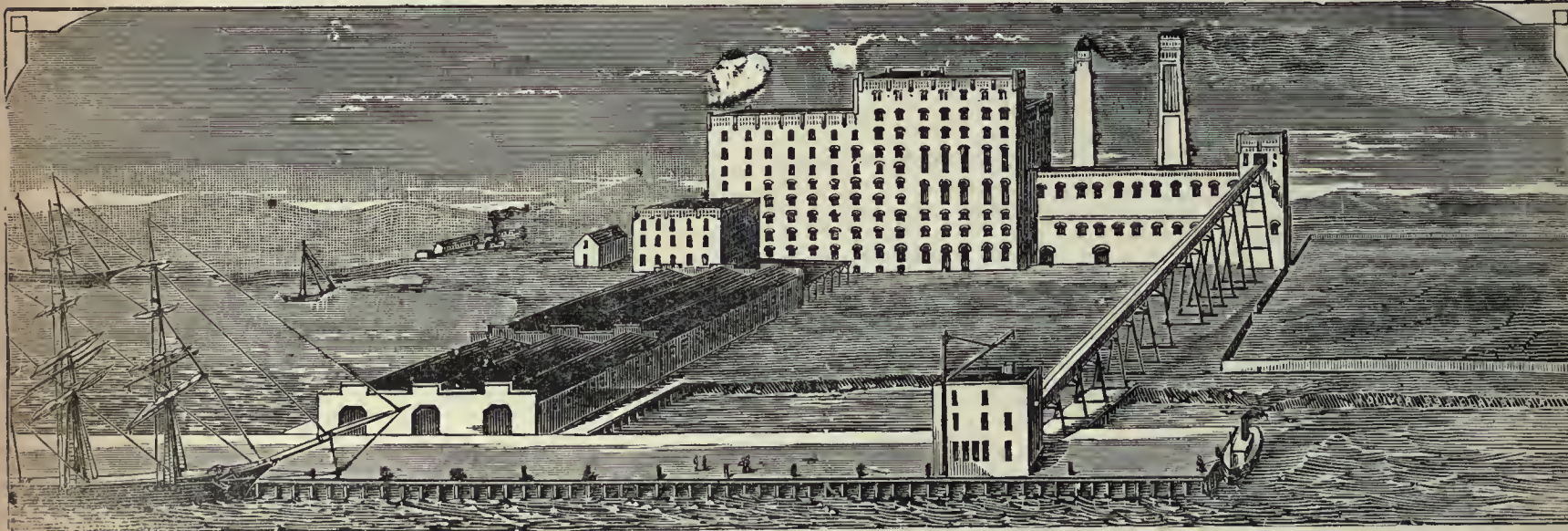
CALIFORNIA SUGAR REFINERY.

OFFICE 327 MARKET STREET.

West View of the New Refinery Building.



VIEW FROM SAN FRANCISCO BAY



—MANUFACTURES THE FOLLOWING GRADES OF—

SUGAR AND SYRUP:

(A) Pent CUBE SUGAR in barrels and bags

(A) CRUSHED SUGAR

Extra POWDERED SUGAR in barrels

Fine CRUSHED SUGAR in barrels

Dry GRANULATED SUGAR in barrels

Extra GRANULATED SUGAR in barrels

GOLDEN C in barrels

EXTRA C in barrels

HALF BARREL, ¼ cent more

BOXES, ½ cent more

} For all kinds

SYRUP in barrels.

Do. in half barrels.

Do. in 5 gallon kegs

Do. in tins, 1 gallon each

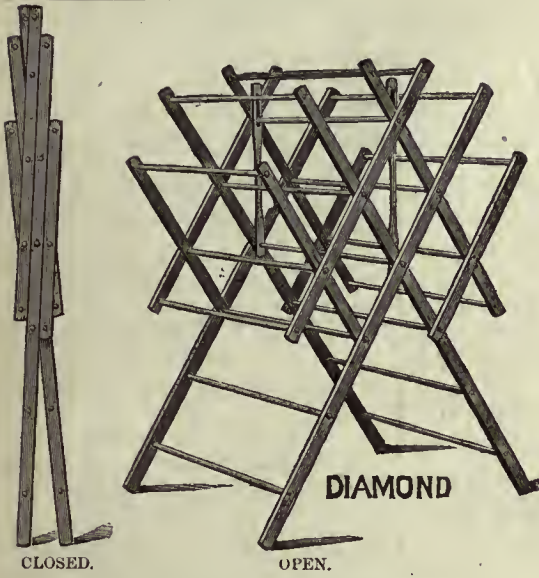


The Products of the California Sugar Refinery and guaranteed absolutely pure and free from all Chemicals and Adulterations.

COOS BAY STAVE AND LUMBER COMPANY.

323 FRONT STREET, San Francisco Cal.

LATEST ADDITIONS TO OUR CATALOGUE OF USEFUL HOUSEHOLD APPLIANCES.



Diamond Clothes Rack.

MANUFACTURERS OF ALL

— KINDS OF —

WOODEN WARE

— AND USEFUL —

HOUSEHOLD UTENSILS.

OUR LINE OF

COOPERAGE GOODS

IS UNEQUALED.

We Have the Latest Improved Machinery

And are able to

TURN OUT SUPERIOR WORK,

AT LOW PRICES.

Casks, Barrels and Kegs

OF ALL SIZES

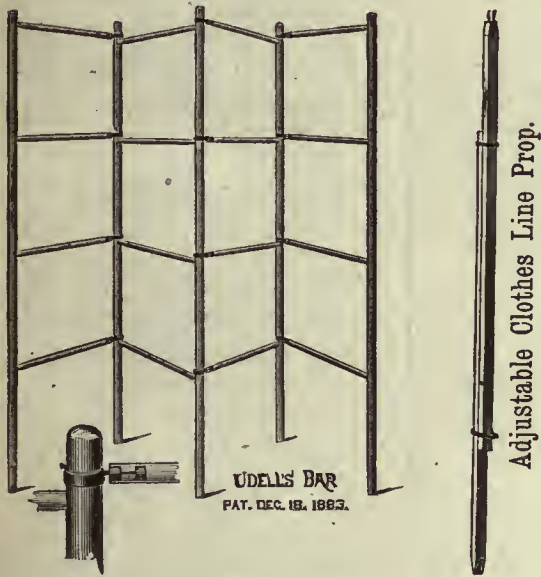
Constantly on Hand.

SEND FOR PRICE LIST.



Udell Excelsior Step-Ladder.

FROM 4 TO 12 FEET HIGH.



Udell's BAR
PAT. DEC. 18, 1883.

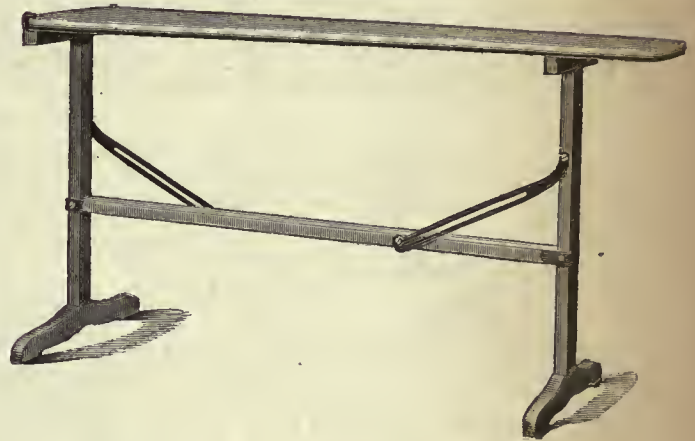
Adjustable Clothes Line Prop.

Udell Folding Bars.

From 3 to 6 feet high and 3 to 5 sections

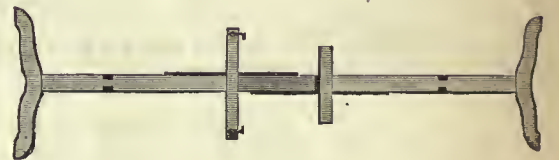


Towel Roller.



SET UP.

Folding Ironing Table.



FOLDED UP.

Folding Ironing Table.

WOODEN WARE FACTORY
CORNER
SIXTH AND CHANNEL STS.

COOS BAY STAVE AND LUMBER COMPANY.

OFFICE: 323 FRONT STREET.

COOPERAGE :
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BRANNAN & EIGHTH STS.

HONOLULU

WM. G. IRWIN & CO.

SUGAR FACTORS AND COMMISSION AGENTS Honolulu, H. I.

- Agents for the OCEANIC STEAMSHIP COMPANY. HAKALAU PLANTATION, NAALEHU PLANTATION, HONUPO PLANTATION, HILEA PLANTATION, STAR MILLS, HAWAIIAN COM'L & SUGAR CO., MAKEE PLANTATION, WAHIEE PLANTATION, MAKEE SUGAR CO., KEALIA PLANTATION.

CASTLE & COOKE,

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- Agents for: THE KOHALA SUGAR CO., THE HAIKU SUGAR CO., THE PAPAIOU SUGAR PLANTATION, THE WAIALUA SUGAR PLANTATION, THE PAIA PLANTATION, A. H. SMITH & CO., THE N. E. M. LIFE INSURANCE CO. BOSTON, THE UNION INSURANCE CO. OF SAN FRANCISCO, THE GEO. F. BLAKE M'FG CO., STEAM AND VACUUM PUMPS, D. M. WESTON'S CENTRIFUGAL MACHINES.

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- Agents for: THE WAIKAPU PLANTATION, THE SPENCER SUGAR PLANTATION, THE HELIA SUGAR PLANTATION, THE HUELO SUGAR CO., MAUI HUELO SUGAR MILL, MAUI PUOLO SHEEP RANCH CO., NURLES, WATSON & CO., JOHN FOWLER & CO'S STEAM PLOW, GLASGOW AND HONOLULU LINE OF PACKETS.

E. O. HALL & SON, (Limited.) HARDWARE MERCHANTS.

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Honolulu, Hawaiian Islands.

HONOLULU

H. HACKFELD & CO.

SHIPPING & COMMISSION Merchants.

Honolulu, Hawaiian Islands

H. W. SEVERANCE, HAWAIIAN CONSUL

COMMISSION MERCHANT. 316 California St., Room No. 4. San Francisco, Cal.

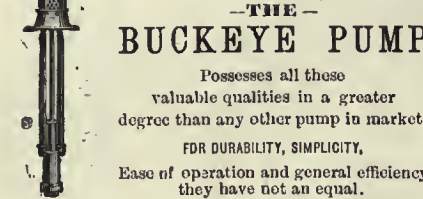
We are now prepared to furnish Viticulturists and others, in any quantity, our well-known



GLADDING, McBEAN & CO. 1358 & 1360 Market Street, S. F.

THE VALUE OF A PUMP

Is Determined by its Simplicity, the Ease with which it is operated in Deep Wells, etc.

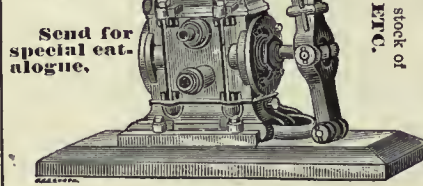


BUCKEYE PUMP Possesses all these valuable qualities in a greater degree than any other pump in market.

FOR SALE BY P. P. MAST & Co., 31 Market St., San Francisco.

WOODIN & LITTLE'S WINE PUMP.

This cut represents our Double Acting FORCE PUMP of great compactness, for use in wine cellars, for pumping from one tank into another.



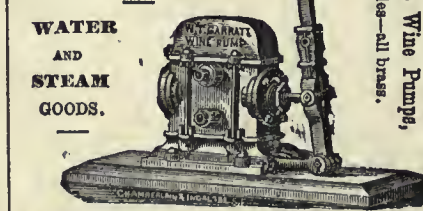
WOODIN & LITTLE 509 & 511 Market St., San Francisco, Cal

W. T. GARRATT & CO.

BRASS AND MACHINE WORKS. Manufacturers of

BRASS WINE PUMPS. WINE COOKS.

All kinds of Fittings FOR Wineries, Distilleries, BREWERIES.



Iron Pipe and Fittings, Hose, Etc. HOOKER'S PATENT STEAM PUMPS. Cor. Fremont and Natoma Sts. SAN FRANCISCO, CAL.

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Via the Great Trans-continental All-Rail Routes.

SOUTHERN PACIFIC COMPANY.

Daily Express and Emigrant Trains make prompt connections with the several Railway Lines in the East,

CONNECTING AT NEW YORK AND NEW ORLEANS with the several Steamer Lines to

ALL EUROPEAN PORTS. PULLMAN PALACE SLEEPING CARS attached to Overland Express Trains.

THIRD-CLASS SLEEPING CARS are run daily with Overland Emigrant Trains.

No additional charge for Berths in Third-class Cars.

Tickets sold, Sleeping-car Berths secured, and other information given upon application at the Company's Offices, where passengers calling in person can secure choice of routes, etc.

A. N. TOWNE, General Manager. T. H. GOODMAN, Gen. Pass. & Tkt. Agt. SAN FRANCISCO, CAL.

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HONOLULU, H. I. P. O. Box 315. The only recognized GENERAL BUSINESS AGENT

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PUBLISHED WEEKLY BY ROBERT GRIEVE & CO., IS THE BEST

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THE COCOA CROP IS SHORT! Look Out for Adulterations, BY USING

WALTER BAKER & CO'S CHOCOLATE.

You will be Sure of Securing the Best. WM. T. GOLEMAN & Co., SOLE AGENTS

SHIPPING.

OCEANIC STEAMSHIP COMPANY.

For Honolulu.



The splendid new 3,000-ton Steamships will leave the Company's wharf, corner Steuart and Harrison streets, at three o'clock P. M.:

MARIPOSA - - - July 1st ALAMEDA - - - July 15th

EXCURSION TICKETS AT REDUCED RATES For freight or passage, having superior cabin accommodations, apply to

JOHN D. SPRECKELS & BROS. Agents, 327 Market Street, corner Fremont

OCCIDENTAL & ORIENTAL STEAMSHIP COMPANY.

for JAPAN and CHINA. Steamers leave Wharf corner First and Brannan sts., at 2 o'clock, P. M., for

YOKOHAMA and HONGKONG. Connecting at Yokohama with steamers for Shanghai, 1885.

STEAMER. FROM SAN FRANCISCO. SAN PABLO..... THURSDAY, JULY 9th OCEANIC..... TUESDAY, JULY 21st ARABIC..... SATURDAY, AUGUST 1st

EXCURSION TICKETS to Yokohama and return at reduced rates. Cabin plans on exhibition and Passage Tickets for sale at C. P. R. Company's General Offices, Room 74, corner Fourth and Townsend streets.

For freight apply to GEO. H. RICE, Freight Agent, at the Pacific Mail Steamship Company's Wharf, or at No. 202 Market street, Union Block. T. H. GOODMAN Gen. Passenger Agent. LELAND STANFORD President.

SURE DEATH!

"BUHACH," G. N. MILCO'S California Universal Insect Exterminator. Sure death to all Insects and harmless to human life.

A California production. Millions of people are enjoying its great usefulness. Directions with each package. Druggists and Grocers sell it at

25c., 50c., 75c., \$1.25 a Can. and 6lb., Cans at \$4.50 per Can.

Never buy BUHACH in bulk, but in original cans, and see that they are sealed and covered by our trade mark, as success will not crown your efforts unless you use genuine BUHACH.

BUHACH PRODUCING & M'FG CO., MANUFACTURERS, 154 LEVEE STREET, Stockton, Cal And 49 CEDAR STREET New York City, N. Y.

Buhach Producing & M'fg Co. 154 LEVEE STREET, STOCKTON, CAL.

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WILL DEVELOP A BEAUTIFUL FORM in sixty days, the effect of which is permanent and plainly discernible in ten days.

Where a perfect bust is already possessed, it will preserve the same firm, and perfect in shape. This is a carefully prepared prescription of an eminent French physician and scientist, and is free from lead and all injurious ingredients, and will not injure the most delicate skin.

A fair trial will not only convince you of its efficacy, but will elicit your sincere thanks and enthusiastic praise. Mailed secure from observation on receipt of price, \$1.00. Sealed circular, 4 cts. Sold by Druggists. Address, MADAME FONTAINE, 19 East 14th St., N. Y.

J. T. COCHRAN & CO., HOPS, A SPECIALTY.

Shipping and Commission. Liberal advances on consignments. 302 California St., San Francisco, Cal.

E. L. G. STEELE & CO.,

Successors to C. ADOLPHE LOW & CO., COMMISSION MERCHANTS.

Agents American Sugar Refinery and Washington Salmon Cannery.

THE SAN FRANCISCO MERCHANT.

THE ONLY VITICULTURAL PAPER IN THE STATE.

Devoted to Viticulture, Olive Culture, Sericulture and other Productions, Manufactures and Commerce of the Pacific Coast.

VOL. XIV, NO. 6.

SAN FRANCISCO, JULY 3, 1885.

PRICE 15 CENTS.

REPORT OF THE FIRST DISTRICT CONVENTION

Of the San Francisco Viticultural
District.

Held at the City of San Jose, May 27, 28
and 29, 1885.

The first Convention of the San Francisco Viticultural District, was held in San Jose, Wednesday, May 27, 1885, pursuant to the following call:

STATE OF CALIFORNIA.

BOARD OF STATE VITICULTURAL COMMISSIONERS.

SAN FRANCISCO, May 14, 1885.

To the Local Resident Viticultural Inspectors: The Commissioner of the San Francisco Viticultural District, in accordance with the provisions of the law, has called a Convention of all practically interested in industries and commerce, dependent upon viticulture, within said District, to be held in the city of San Jose, on the 27th, 28th and 29th of May. A cordial invitation to attend the sessions is extended to all persons, whether residents of this, or other districts, who are interested in the subject matters to be discussed, without the formality of special notification. Local Resident Inspectors are requested to make this call and invitation to the public in their respective localities, and to assist the Commission in urging the importance of securing a large and representative attendance at this, as well as at all other similar Conventions.

These Conventions are intended to serve as opportunities for gathering information of practical value and for the promotion of harmonious relations between all who have interests in common, affected by success in viticultural pursuits. In order that individual opinion may not be unnecessarily antagonized, formal expression by vote of those in attendance will not be elicited, each being free to form his own conclusions as to the merits of any proposition that

may be discussed from different points of view. Resolutions and motions, concerning unexpected subjects, not contemplated by the programme of topics previously announced, will not be in order, and no motions, requiring the vote of the Convention will be submitted unless the same have been duly announced and referred to a committee one day previous to the action of the Convention.

The presiding officer, as required by law, will be the Commissioner for the District. The sessions will be held in the hall adjoining the California Theater.

The work of the Convention will be as follows:

Wednesday, May 27th.

10 A. M.—Inspection and study of samples of viticultural products.

1:30 P. M.—Reading of papers and discussions relating to practical experience in fermentation, distillation and cellar management.

8 P. M.—Reading of papers and discussions on practical viticulture and viniculture in the French language.

Thursday, May 28th.

10 A. M.—Continued inspection and study of samples, etc.

1:30 A. M.—Reading of papers and discussion of general rules based on practical experience and scientific research, relating to vinification and the care of wines.

8 P. M.—Continuation of preceding subjects. (If found practicable to conduct the work during the evening session in the French language, announcement to that effect will be made at the close of the evening previous.)

Friday, May 29th.

10 A. M.—Continued inspection and study of samples, etc.

1:30 P. M.—Reading of papers and discussions of questions pertaining to markets and necessities of increased facilities for maturing viticultural products.

8 P. M.—Discussions concerning mercantile prospects, obstacles to trade, and remedies for difficulties lying between producer and consumer.

A committee will be appointed to take charge of and direct the order of inspection and study of samples during the morning sessions. No formal report on qualities of exhibits will be required from the committee, but each of its members will be invited to preserve notes of observations and criticism to be submitted by the Chairman to the Viticultural Commissioner for publication. Experience has demonstrated that it is impracticable to attempt to obtain critical reports on matters involving questions of taste and the determination of mercantile values, wherein several examiners are called upon to unite in judging many different samples. The Committee will, however, have ample opportunity to report upon the merits of all exhibits, concerning which they desire to express a concurrent opinion.

All questions of local rivalry and personal competition will be carefully excluded

from the Convention and from all official reports. The only rivalry that should be encouraged during such Conventions, conducted under the auspices of the State, should be in the effort of each section to acquire the greatest possible information and advantage from the experience and studies of fellow citizens of other sections—a frank and sincere public spirit on the part of all, free from provincial feeling, characterizing all critical discussions.

Exhibits for instructive sampling and comparison, but not for competition, are specially desired. They should be sent by express, addressed:

THE VITICULTURAL CONVENTION,
Care of L. D. Combe,
SAN JOSE, Cal.

They will be received and stored carefully and should arrive in time to be classified on Tuesday, May 26th. It is difficult to properly arrange and examine samples that arrive while the Convention is at work.

Brief papers on the true history of the original introduction of different varieties of vines into the District, to assist in our nomenclature and classifications, will be of special interest; but there will be no time for general discussion of topics which they may suggest.

The counties, comprising the San Francisco Viticultural District, are San Francisco, San Mateo, Alameda, Santa Clara, Monterey and San Benito.

The Secretary of the Commission will be prepared to exhibit under the microscope the germs of different fermentations and specimens of vine pests. Mr. F. W. Morse, Inspector at Berkeley, will report upon investigations of advances made by the phylloxera; and Professors Rising and Hilgard of the State University are expected to take part in the discussions.

Wine merchants, dealers and brokers and capitalists, who wish to study the opportunities that our industry may offer for investment and new enterprise, members of the State Legislature and Congress, and officers of the State and Federal Governments, members of the medical profession, scientific students, teachers in public and private schools, manufacturers of vineyard and cellar supplies and apparatus, proprietors of hotels and restaurants, and other retailers of vineyard products, representatives of transportation agencies and members of the press are among those who are specially invited to unite with vine growers and wine makers in these Conventions.

CHARLES A. WETMORE,
Chief Executive Viticultural Officer and
Commissioner for the San Francisco Viticultural District.

A large number of viticulturists and others interested in the subject were present during the different sessions of the Convention and manifested a lively interest in all its proceedings, there being about 100 in attendance during the first day, which is a larger number than can generally be assembled at the opening.

The following list contains the names of a few of those who were present during the sessions of the Convention:

From San Jose and vicinity: The Hon. J. W. Cook, J. B. J. Portal and wife, Captain J. Chamon de St. Hubert and wife, Mr. Rothermel, W. H. Brundridge, G. Daggett, J. J. Bowen, F. Dunn, R. Butcher, ex-Mayor Martin, L. D. Combe and wife, T. Manrin, Hon. C. T. Ryland, M. J. Haines, Mr. King of the Santa Clara Agricultural Association, L. H. Pollard, Charles Le Franc, Mr. Brassy, F. Sourisseau, P. de Saisset, Mr. Mirasau; F. H. McCullagh and B. F. Bachman, Los Gatos; L. H. Wakefield, R. T. Pierce, Santa Clara; J. Wright, J. L. Reidy, Hon. John T. Doyle, Cupertino; Wm. Pfeffer, R. C. Stillar, Mr. Bubb, Guberville; A. Flamant, Hon. M. M. Estee, Napa; F. Pohndorff, Mr. Bustelli, St. Helena; Dr. Bernard, F. L. Fowler, Jease Bowles, Wm. Wright, Hon. J. F. Black and wife, George Bruck, and J. Mortier, Livermore; D. C. Feeley, Patchen; W. B. Rankin and wife, Alma; Henry Mel, Glenwood; Dr. J. A. Stewart, Santa Cruz; Chas. Shillaber, Cordelia; Arpad Haraszthy, C. Anduran, E. H. Rixford, W. A. Meeker, George Johnston, San Francisco. J. H. Wheeler, Secretary, and Clarence J. Wetmore, Assistant Secretary of the State Viticultural Commission, Chas. A. Wetmore, Chief Executive Viticultural Officer of the State Viticultural Commission, and Mrs. Wetmore; Wm. Palmtag, Hollister; Geo. A. Cowles and wife, El Cajon, San Diego county; Hon. J. Routier, Routier, Sacramento county; Charles Weber, Stockton; Chas. Detoy, Mountain View; J. L. Beard, Centerville; W. Etehell, Vallejo; J. L. Heald, Port Costa; E. B. Smith, Martinez; Dr. J. D. B. Stillman, Lugonia, San Bernardino county; J. W. Kottinger, Pleasanton; Professors Rising and Hilgard, Messrs. M. E. Jaffa and G. E. Colby of the State University; F. W. Morse, Berkeley; J. J. Montealegre, Juan Gallejos, Mr. McIver and Mr. Musser, Mission San Jose.

The lists of domestic and foreign wines, brandies, etc., exhibited, are unavoidably held over because the results of the examination have not yet been received. The exhibits were received by Mr. L. D. Combe, and during the examination were under the immediate charge of Mr. M. E. Jaffa and Mr. G. E. Colby of the State University.

There were also on exhibition a model of a wine press patented and made by Mr. Worth of Petaluma, a model of a stemmer and crusher, the property of Mr. Sainevain of San Jose, a sample of raisins made by G. A. Cowles of El Cajon, San Diego county, and Hemmings' patent shears for picking grapes without handling the bunches.

There were also some photographic views of vineyard scenery exhibited by Mr. Taber of San Francisco.

There were also under the charge of the Secretary of the Commission microscopic specimens of the different ferments, and of the phylloxera in its different stages of growth, from the egg to the perfect insect.

FIRST DAY.

Wednesday, May 27, 1885.

FORENOON.

The Committee appointed to examine and report on the samples of wine submitted, consisted of the following named gentlemen: J. Mortier and Dr. J. Bernard, Alameda county; Capt. J. Chamon de St. Hubert and J. B. J. Portal, Santa Clara county; F. Pohdorff, Napa county; A. G. Chauche and C. Anduran, San Francisco; Hon. J. Routier, Sacramento county; C. Aguilon, Sonoma county; Dr. J. A. Stewart, Santa Cruz county; Charles E. Shillaber, Solano county; William Palmtag, San Benito county; Dr. J. D. B. Stillman, San Bernardino county.

Each member of the Committee was requested to make a separate, individual report on the samples tasted by himself, as no general report of the Committee, as a whole, could be made.

The morning was entirely devoted to the tasting of the samples of the foreign wines procured by the Viticultural Commission for the purpose of comparison with native products. None of the native wines were tasted to-day, but many specimens on the foreign list were examined during other morning sessions and compared with the native products of the same character, by the members of the committee.

Mr. Wetmore called the attention of the committee to the samples of claret from Rioja, Spain, as of special interest on account of the similarity of climate and conditions of Spain and those of many parts of California. They are supposed to be made from grapes of the Bordeaux varieties, grown in the hot climate of Spain, and are said to be good shippers.

The observations made by the different members of the committee appointed to examine the wines exhibited form part of this report.

AFTERNOON SESSION.

The Convention was formally opened at 2 o'clock p. m. by Charles A. Wetmore, Chief Executive Viticultural Officer of the State Viticultural Commission, and Commissioner for the District, who presided. In opening the Convention he spoke as follows:

Ladies and Gentlemen:—As the Commissioner for the San Francisco Viticultural District, I have the honor to preside over this Convention, the labors of which, I trust, will mark one more step in the advancement of our industry.

The law, which governs us, has divided the State into seven viticultural districts, each of which has a representative in the State Commission; two Commissioners are also appointed for the State at large. Until recently, this district was represented by Mr. Arpad Haraszthy, whose home for many years has been within your limits, where, as a producer of champagnes, he has both distinguished himself and honored the State; in his occupation as a wine merchant, he has also taken, and filled most worthily, a leading position among those gentlemen, who have successfully fought for producers the battle of competition against imported goods. It is mainly to such men as these that the present prosperity of vine growers is due; to their exertions and harmonious efforts are due the many changes that have been wrought in national legislation, without which little progress could have been accomplished; to their watchfulness and the measures which they have adopted, we are mainly indebted for protection against hostile movements of domestic and foreign invention; to their commercial pluck and energy we are indebted for our present markets. As these merchants have seen many a dark day, while attempting boldly to create a demand for our products during a period of the wine maker's inexperience, when inferior qualities of grapes and wines coincided with imperfect facilities for fermentation, transportation and storage, and conflicted with popular habits and prejudice, we, who are producers, may now sincerely congratulate them upon the fact that our improved vintages have already materially facilitated their commercial struggles, and that we can now show evidences of such still greater improvements that the merchant may soon feel personal pride as well as reap profit in his calling. Those who have attended these

viticultural conventions, both merchants and producers, have been encouraged by prospects of progress, which are scarcely comprehended by those who have not been with us. As "coming events cast their shadows before," there may be seen in the experimental products, submitted here for study and example, the foreshadowing of glorious vintages which have yet to become the objects of the world's envy. We have ceased to feel annoyed, when we read mild compliments in foreign journals, coupled with the prediction that the fine and noble wines of Europe will not find competition here, because demeaning criticism only stings when its victims secretly admit its justice. The fact that the California wine maker no longer shrinks from calling attention to the inferiority of many of our products, should teach the world that we not only aim to do better, but that we have seen practical proofs that we are going to succeed. All honor, therefore, to the merchants, who have sustained us, when we had little merit, and all glory to the industry in which we begin to feel a mutual pride.

In accepting the privilege and honor of presiding over this Convention, which has resulted from a change of places within the commission, but which has not otherwise affected our work, I could not think of doing so without saying to you that it would be impossible to write the history of viticulture in California without giving a leading place to Mr. Arpad Haraszthy, successful producer, successful merchant and foremost in public spirit, talent, education and generous impulse for the public good. If it should happen to me, after I have worked in the harness as long as he has done, that I have given encouragement and powerful aid to as many good things for the advancement of our prosperity as he has so unselfishly done, I shall feel that to be publicly honored is my rightful reward, even though such services may be forgotten or ignored by the great number of neophytes, who may be born into our ranks. If there is any vine grower in this district, who, knowing what the pioneers of this industry have done, does not sincerely regret that Mr. Haraszthy no longer appears as his special representative in the State, such a man is unworthy to share with us now the fruits of his labor. As his successor in this district, I shall never forget to keep his memory warm in the hearts of all good men and women, nor shall I, during his life, let pass those golden opportunities for recording noble deeds, which ordinary custom postpones for the embellishment of the tombstone. While there are many, who have, as unselfishly as he, labored for our cause; while there are some, who have locally equalled him in zeal and accomplishment, yet we must not forget now, while history is fresh with us, to write him down as having filled the role, for the State at large, as the chief spirit of our present organized condition of progress and improvement; in this sense it is more fitting that he should, as he does now, represent the State at large in the State Viticultural Commission.

My own duties, as the Chief Executive Officer of the Commission, lead me into thorough sympathy with every part of the State; I could not, if I would, become provincial in my feelings, as the Commissioner for this district; if I succeed in so performing my work that there shall be no awakening of unworthy sectional rivalry, but rather a quickening in your hearts of that kind of public spirit and generous pride in our commonwealth, which has always characterized my predecessors, I shall have done no more than has been already accomplished by my colleagues from the Napa, Sonoma, Los Angeles and other districts. It will be my pride to say that the San Francisco district equals her sisters, not only in material progress, but also in generosity and in patriotism that knows no county and no district boundaries.

With these remarks, dedicated to the good name of our district, I have the honor, ladies and gentlemen, to call this Convention to order, and to the consideration of serious and practical questions.

In stating the objects of the Convention Mr. Wetmore wished it understood that they did not meet as a county fair, to find out who produces the best wine, but to learn from each other by consulting together, and to compare differences in practice for the general benefit. Let us have free, conscientious

criticism, not for rivalry but for mutual benefit. Keeping this object in view, it is intended to devote the session more particularly to the discussion of practices followed by wine makers in this district.

Mr. Arpad Haraszthy, President of the Board of State Viticultural Commissioners, and former commissioner for the San Francisco Viticultural District, was first called upon to address the Convention. He expressed his warm appreciation of the high compliment paid him by the Chairman, and paid a high tribute to his efforts as Chief Executive Viticultural Officer of the Commission, and feelingly alluded to the friendly relations which had long existed between them, as well socially as officially. He alluded to his own former incumbency of the office of Commissioner for the San Francisco District, and congratulated his hearers upon the fact that he was able to turn over to one so worthy to fill it, the office of Commissioner of the District, which is one of the most important viticultural districts in the State.

To give a bird's-eye view of the present situation of the wine industry in the State, he said that the product last year was about 15,000,000 gallons, of which 9,000,000 would satisfy the present requirements of the trade, and perhaps 2,000,000 had been distilled into brandy, leaving now on hand of last year's crop some 4,000,000 or 5,000,000 gallons of wine, with but little left over from previous years. The cellars are now full. In spite of the frosts of this year, with the new vineyards coming into bearing, the next crop will be about 20,000,000 gallons. What are we going to do with it? The wine makers must decide where they are going to get sufficient casks and cellar-room. We must have a foreign market, and to that end we must make better wine than much hitherto made. We must know how to manage this wine, keep it, age it, and not force it on the market all at once. Capital is needed to build warehouses where it can be stored and be cared for by competent cellar-men. We have an advantage over the grain-producers, because the wine will improve with age. Don't wait for the capitalists of San Francisco to come to you, but establish warehouses here. Show the capitalists the advantages for investment of their money in this enterprise. A producer had just offered the speaker a fine lot of Zinfandel, and he was obliged to decline it. He advised him to hold his wine till next November, and not sell now at a sacrifice.

J. B. J. PORTAL, ON WINE MAKING.

Mr. Portal spoke as follows: It is a simple thing to ferment wine, but it requires attention and care. In choosing the varieties of grapes to plant, he would aim at a high class of products. He considered the soil as of great importance. Soils differ in the same vineyard. To produce Burgundy wine, choose a Burgundy soil, and for Bordeaux a Bordeaux soil. Santa Clara county is suited to produce Burgundies, but it is questionable if it is adapted to the production of Bordeaux, judging from experience thus far. The varieties mentioned by him are Ploussard, which requires long pruning and is of a delicate flavor, but does not blend well with Mission. Petit Pinot and Franc Pinot, of the true Burgundy type produce well with him, better than on the Santa Cruz mountains. The Johannisberg Riesling is a heavy bearer, and he finds it useful to blend with reds. He ferments it as he does the Burgundies—on the skin. It gives fullness, increases the bouquet, and keeps well. His experience with it is on rich, low land. He thinks that the Zinfandel is frequently confounded with Black St. Peter's in this locality, under which name it was introduced. He claims that the Zinfandel partakes of the Burgundy character in acid, flavor and tannin. Zinfandel, properly grown, will produce fresh, acid claret, of good perfume. Cabernet Franc has been found here, and with long pruning bears well after the fourth year. Malbec resembles Ploussard, but is less prolific. It has high color, blends well, and adds quality.

He also alluded to the varieties which produce the Rousillon wines, such as Carignane, Grenache and Mataro. The Carignane is a good bearer and matures a few days later than the Grenache. The latter produces with him a light, clear, agreeable wine, but he is not satisfied with his blend of Carignane and Grenache. The Mataro

produces a wine rough at first, but later becomes smooth and agreeable. It ripens late and may be left the last in the vineyard; is erect in growth, healthy and prolific. Samples of wines made from these and other varieties are before the Convention for examination with their different blends.

Mr. Haraszthy condemned the use of Riesling to blend with red varieties, and said it is well known that its flavor can be produced by the use of a certain quantity of Muscat. He thinks that the Riesling produces a detestable flavor in claret, and that it is a poor fermenter. Though fermenting it on the skins as mentioned by Mr. Portal might make a difference.

Mr. Wetmore said that there is more confusion in the names of varieties in this district than in almost any other. Practically he has never found any Burgundy Pinots in the county. Petit Pinot, so-called, was imported by Mr. Pellier from the Charente. The Ploussard of Mr. Portal differs from that variety as imported. Most of the so-called Johannisberg Riesling of this county are the Franken Riesling. The Cabernet Franc of Mr. Portal is unlike the true Cabernet, which is now well known in the State.

The Malbec is well known here now, and is what has hitherto been called Cabernet. He cautioned vine-growers to be careful in naming varieties of grapes and avoid confusion in nomenclature.

Charles Lefranc in answer to a question by Mr. Wetmore, stated that in his opinion there are no true Pinots grown here now, having been all discarded as not prolific.

Henry Mel of Glenwood, Santa Cruz county, said that in his section they are laboring under the disadvantage of confusion in names of varieties, and lack of good cellars. He is at an elevation of about 1,300 feet, in the Santa Cruz mountains. As to the Meunier he said that Dr. Stewart had a couple of vines which he had pruned on the Chaintres system, with two canes eight or ten feet long, which seemed to have a large crop; but whether they all ripened or not was a question and, if they do ripen, the bunches are so small of this variety that picking is very slow and expensive, and the wine does not bring higher prices than others, such as Zinfandel, Charbono, etc., or even the Malvasier which has such a black name among dealers. In connection with this last variety; its bad name, in our mountains at least, is quite undeserved, for the wine has been pronounced "first-class," not by one dealer alone but by all who have tasted it. They have not even been able to recognize it as Malvasier, which goes to prove that our mountains produce wines superior to those of the valleys, and also that no variety will give good results in all soils and localities. We will, no doubt, find many other varieties that will do better with us than in other localities, for this seems to be the natural home of the grape. The Meuniers ferment as well as any others. No fault has ever been found by the dealers with the fermentation of our wines—on the contrary one dealer told me this year that he had seen none better than a sample which I showed him. Of course in every cellar there are bound to be some poor wines, but this is caused more by condition of grapes when picked than anything else. Fermentation with him goes through well, but it might be more regular, if his buildings were more compact and less subject to draughts. In his own experience, stirring in the vat has not proved advantageous. When the fermentation lags, stirring did not revive it nor give additional color, but others inform him that they have found it advantageous. The Chauchés bear well with long pruning.

Mr. Haraszthy said that he did not like the Chauché Noir wine from the Santa Cruz mountains, but is pleased with that from the Verdal, and that a good, ordinary Malvasier is produced there. In alluding to the origin of the Zinfandel, and to the statement that Mr. Macondray had it in his graperie in San Francisco, Mr. Macondray's gardener asserts that that grape never was grown in that graperie. It is a Hungarian grape, and is first mentioned in this country by Prince in 1830. It was first in bearing in this State, at Crystal Springs, San Mateo county, in 1856, where his father had it, but it did not ripen there. His father had it as early as 1852. It probably came from a vineyard belonging to his mother in Hungary.

The Black St. Peters has an oval berry,

and he didn't see how it can be confounded with the Zinfandel. It is in his mind that the Zinfandel is a seedling from a Burgundy grape, but does not now remember the authority for the statement. The white juice of the Trousseau can hardly be distinguished from its white juice, but he does not taste any Burgundy flavor in it.

As to blending, it must be kept in view that a harsh wine which does not develop mellowness cannot be successfully blended with a mellow wine. An acid wine will blend well with an acid or an astringent wine. The Burgundies are mellow, and an astringent wine will not harmonize with them. In France they take a light, acidulous, neutral white wine to blend with reds. Verdal is useful in this way. He considered soil important, but climate is as much if not more so. You can't make sherry in the snows of the Sierra even with a Jerez soil. The Burgundies are probably the easiest to make in this State and the Bordeaux the most difficult. Appropriate localities for certain types will be found by accident rather than by theory. He advised wine-makers to consult the growers in his locality as to what to plant. Bordeaux and Burgundy varieties planted in Spain and Portugal do not produce Medoc or Burgundy wine.

Mr. Wetmore.—Good wine may be produced in any soil properly drained and conditioned, if the proper varieties of vines are planted. Soil is not the true test of types. Different soils in the same district may produce fine wine of the general type of the locality. Climate will test this question more than anything else. The claret from Rioja, Spain, produced from Bordeaux varieties of grapes is of the Bordeaux type, though stronger.

Mr. Palmtag of Hollister said that he grew up on the Rhine, and that his experience in California is limited. The Mission does not ferment well with him. He has succeeded in getting more color by fermenting in a tank with a tight head than from one with a floating head.

The Chairman asked for experience in this State in the matter of long vatting to produce color and tannin, and alluded to the practice in the south of France where formerly they frequently left the wine on the skins for two or three months. Now they leave the wine less time in the vat, but nevertheless leave it to macerate for a considerable period.

Mr. Haraszthy said that some varieties might be left to macerate in the vat, but with others the result is bad. The difficulty is that the wine from some varieties of grapes acquires a brownish tint by maceration, while the merchant wants a clear, garnet red in the bubbles. He has understood that they are now doing away with the Lenoir in France, because the color is blue rather than red.

Mr. Wetmore, from experience in San Diego, was of the opinion that Zinfandel needs maceration in the southern part of the State.

Mr. Haraszthy said that he neither approved nor disapproved of maceration, but that by it many varieties not only acquire wrong color but get a port taste.

Mr. Wetmore.—The French writers condemn maceration, but the practice is nevertheless growing, because the merchant wants color and tannin. We must make the wine the merchant wants. He did not counsel maceration, but wanted to know what is best to do. For his own choice he would prefer a fine wine, but the demand for such wine is limited.

Mr. Pohndorff.—Maceration is employed chiefly to produce wine of a heavy body and color for blending, but in districts where fine wines are produced it is deleterious. In the hot valleys of the State it may be useful for some purposes, but only to produce wines for blending.

Mr. Portal referred to a sample of wine made by him which was fermented only 24 hours. He has fermented longer, but prefers a quick fermentation, and thus gets vivacity of color and enough tannin. He gets as much color in six days as in two weeks. Short vatting avoids harshness, and he approved long vatting to produce wines for mixing purposes. Short fermentation for delicate wines. This year it was cold when his Mataro was picked, and he had to warm it to start fermentation, but it went through in nine or ten days and had good color.

Mr. Haraszthy.—In other localities the color of Mataro has been deficient.

Mr. Portal.—Mataro blends well with Zinfandel, but matures much later.

Mr. Wetmore quoted from Pellicot to the effect that when the must is watery and contains little sugar, fermentation is rapid and of short duration; grapes containing much sugar require more time. If the juice is syrupy a little water may be added. Varieties deep in color and rich in tannin may remain longer in the vat. The tannin retards fermentation, as well alcoholic as that which produces disease. If four to six days are required for Aramon, ten or twelve may be necessary for Mataro. In his experience last year Zinfandel fermented in three or four days, but Mataro required fifteen.

Mr. Portal stated that last year, through a mistake of the pickers, some Zinfandel grapes were left till they showed 28 per cent of sugar. He mixed green Mataro with them, not yet showing 18 per cent—mixed them well and the fermentation started promptly.

Mr. Wetmore stated as the result of his study of red wines that fermentation should be as prompt as possible. He also alluded to the great diversity of practice in the matter of stemming the grapes. In Burgundy stemming is not practiced, but the grapes have but little stem, while our Mission has a large stem. The practice in a measure, depends on the length of time the wine is left in the vat, and also the condition of the stems; whether they are green or dry. He knew of good wine made here without removing the stems. He here stated that Mr. Wm. Pfeffer had made a wine which came nearest to a Bordeaux of any he had seen in the State, and called upon him for his experience.

Mr. Pfeffer said that the wine in question was made in the open air, under an oak tree, in 1883. It fermented violently for seven or eight days, and there was a good deal of sugar in the grapes. This year he fermented his wine in a close room and completed it in four or five days. The duration of fermentation depends a good deal on the season. He stems all his grapes, because the stems are generally green here. He was informed by a Frenchman in his employ that the stems were generally dry in France.

Mr. Haraszthy.—They are dry in the more northerly parts of France, but green in the south of France, as in California.

Mr. Pfeffer thought that some wines are spoiled by leaving them too long in open vats. He does not leave his more than seven days as a rule, and thinks that long vatting takes away the fruity flavor. He draws from the pomace when the cap begins to settle. He stirs the pomace during the first two days, and then puts the cover on the vat. The grape from which his wine was made has not been identified with certainty, but he calls it a Cabernet. It bears well, pruned long, and produces a wine of the Bordeaux type.

The Convention then adjourned till 8 o'clock P. M.

EVENING SESSION.

Mr. Wetmore opened the session with a few remarks in the French language, and stated, according to previous announcement, that the discussions during the evening would be carried on entirely in that language. The Hon. J. Rontier was called upon to preside over the session, and Capt. J. Chamon de St. Hubert was appointed Secretary of the same.

[TRANSLATION.]

Mr. Rontier, on taking the chair, expressed his satisfaction at seeing so large an attendance of French citizens, and thanked Mr. Wetmore for the honor bestowed upon them, in giving them an opportunity in free California, to discuss in their own language the important questions relating to viticulture in this State.

VITICULTURAL TALK.

Mr. Adolph Flamant was first called upon, and read a paper which he styled "Viticulural Talk," as follows:

Ladies and gentlemen.—Lately I received a visit from a friend of mine, who is a partner in an important wine house in New York. With the enterprise which characterizes his establishment, he came to see for himself the progress which California has made in viticulture, and also to create di-

rect relations with some of the best producers here. I accompanied him to the principal cellars in Napa valley, and what he found was to him a complete revelation. He could not sufficiently express his surprise at finding everywhere wines clean-tasting and agreeable to the palate. He constantly assured me that on his return to New York, he would cause many New Yorkers, and among them the venerable Mr. Jacquot, to lay aside their prejudices against California wines. "Yes," he said to me on his departure, "I shall return to New York an apostle of your wines—a California wine man." This kind of experience is doubtless not new to you, but these truths cannot be too often repeated; and it is because the fact is not sufficiently known at the East, that I now emphatically declare that with few exceptions, wines are already produced here, which, without pretending to eclipse the grand old wines of France, are, indeed, good table wines. There are among them wines which excel the *vin ordinaire*, and which have a certain return-to-me taste that it is not always easy to resist. But we all know, gentlemen, that those who habitually use wine at meals do not abuse it—it is the best preventative against the immoderate use of alcoholic drinks. Therefore we may smile at Mahomet when he says that a devil is concealed in every grape. I would reply to Mr. Mahomet that he is a great fool to say so. Some one has said that the deluge proved that the wicked are all drinkers of water, and Mahomet should have lived at the time of the flood. Then he could have enjoyed to his heart's content, that unfermented beverage which seems sufficient for his happiness—at least in words. But the good old Noah could never have been tempted to draw from the same spigot; the two men were too diametrically opposed on this grave subject.

But, gentlemen, all this brings us to think that very soon it will be with the wines of California as it is with certain great truths; they can not long remain in obscurity. I am far from being one of those who expect soon to see a great overproduction in California. Do those that fear it know that France alone has lost some 3,500,000 acres of her vines through the phylloxera, and that the new plantation is far from keeping pace with the destruction, and that the difference between the production of last year and that of the years of greatest production amounts to 850,000,000 gallons? Must not this immense deficit be supplied in some way? California, with her twelve or fifteen million gallons now produced, or her forty or fifty million gallons of the near future will not weigh very heavy in the balance.

Let the lively breeze of progress blow over our land, where now the later plantations furnish the elements of a better product, where we no longer plant but the best French varieties, and the owners are hastening to replace the common ones by grafting with the best, and the wine makers are learning to improve their products, and capital is beginning to afford the opportunity of holding our wines from consumption till they have been at least one or two years in the cellar.

From all these facts I infer that the hour approaches when other Eastern houses will follow the example of the friend of whom I just spoke. They will lay aside their prejudices against California wine, and they will come here and replenish their stocks directly from good cellars, and avoid the intervention of those unscrupulous dealers who seem to try to keep up the bad reputation of our wines by means of false labels, in order that by their enormous profits they may reap the greater part of the harvest. In order to advance the movement, why do not the owners of good cellars in Sonoma and Napa valleys, as well as the other viticultural centers of the State, form a syndicate for a permanent exhibition of their wines at New York at a common expense? By establishing a retail trade there at prices which will dethrone other and less agreeable beverages, not only the office expenses but the cost of extensive advertising can thus be paid. Direct orders will soon be the result, and the way will be opened for the final establishment at New York of great depots of California wine, as at Bercy in Paris are found vast quantities of wine consigned from every viticultural center of France. I cannot close these few remarks without thanking the State Viticultural Commission for having devoted one evening

to discussions in the French language, and in so doing I but echo the sentiments of all my countrymen present. It is an honor paid to our country, of which we are proud and happy. I beg the gentlemen of the commission to accept our sincere thanks for the honor they have paid us, as well as the pleasure which the occasion affords.

A. G. CHAUCHE.

The Secretary then read a letter from Mr. A. G. Chauché of San Francisco, expressing his regrets at not being able to be present in person, enclosing the following paper on the "Treatment of New Wines."

The quality of red wine depends upon several conditions: The varieties of grapes and the method of culture, the nature of the soil, the degree of maturity of the grapes and the care given to the product from the time it leaves the vat till it enters the bottle. Suppose that the first conditions are fulfilled, we must insist upon the latter, that is, the care to be given to the wine from the time it is drawn from the fermenting tank, for it is well understood that by proper methods of vinification the nature of wines can be improved.

After the wine is drawn from the vat, the full casks should be placed on the supports, and the bung hole lightly covered by a wooden bung during the first month after the vintage, in order that the gas generated by the after fermentation may find a vent. During the first four months the casks must be kept constantly full by restoring to them what has been lost by absorption by the wood and by evaporation. This operation of filling up is called "tilling," and its object is to prevent all contact of the air and the consequent acetic fermentation which is sure to be produced if a vacant space is left in the cask. For filling the casks wine of the same crop should be used. During the first month the casks should be filled twice a week, then when fermentation is finished the bung should be driven home, and from this time they are filled up only once a week.

The wine may thus remain all winter, and form an abundant deposit at the bottom of the cask. About the month of March, the wine is "racked," that is, drawn off into another cask in order to separate it from the heavy lees. This operation must be performed with great care; and before filling them, the casks should be washed twice with clean water, and sulphured with a quarter of a sulphur match.

The lees remaining are placed in a cask by themselves, where, after a certain time, they become clear, and furnish half their volume of wine, called *vin de lie*, sediment wine.

The casks into which the wine has been racked should be filled up once a week until the month of June, when the second racking takes place into sulphured casks. They are racked a third time in March following, always sulphuring the casks to destroy the ferments which might injure the quality of the wine. For racking, clear and dry weather should always be chosen.

To the time of the fourth racking, that is, during the 18 months following the vintage, the casks have been regularly ulled once a week, keeping the bung up. After the fourth racking they are placed with the bung at the side, so that the wine will constantly bathe them, and prevent the access of air. A certain amount of evaporation takes place through the pores of the wood lowering the level of the wine in the cask, but the vacant space is not filled with air, but is occupied by vapors which are given off by the wine.

From this time the wine is racked only twice a year, in March and August. When the operation has been repeated for three or four years according to the quality, and shows the wine has in a manner freed itself naturally from the matters which it held in suspension, the clarification is finished by means of fining. By stirring, the albumen is thoroughly mixed through the wine, it seizes upon the solid particles in the liquid, and carries them with it in settling. Its action is not entirely mechanical, but probably after a long contact combines with the acids and the tannin, the albumen removes from the wine the excess of these acids, diminishes its astringency, and prevents the loss of alcohol.

And, under this head, I would say that the different prepared finings employed by some, are not equal to the whites of eggs in value.

After the wine has passed through all these operations it may be bottled.

CAPT. J. CHAMON DE ST. HUBERT.

Captain J. Chamon de St. Hubert then read from the *Journal of Horticulture* of France, volume VII, 4th series, the following:

"With the Report of Mr. Wetmore are also three important translations of books published in France. These translations are accompanied with a wood cut remarkably interesting and copied from ours.

We see that the State of California is called by its climate, by its soil, by the enterprising spirit of the people, many of whom are accustomed to our French wine, —is, we say, called to be a wealthy place in viticulture. However, we need not be afraid of competition, on account of the wants that there will soon be in the Eastern States of America. In addition to California, Texas, New Mexico, Arizona, Missouri and Ohio are planting fast. I however repeat it, we need not for a long time fear competition with European wines, but it is very important for all viticulturists to know what immense progress is made in California."

The Secretary also read a letter from Mr. Aimé Champin, France, addressed to Mr. Chas. A. Wetmore, and which after thanking that gentleman for various books sent to him says: California is of all the regions of America the best adapted to viticulture, in that respect resembling France, and the epoch is not far off when both countries will have to exchange their products. We sent you cuttings of our best varieties and undoubtedly you will before long send us wine which will come into close competition with us in our markets. Must we fear that, as some have done, on account of the American wheat and salt meat you have already in our market? I do not presume to say yes. I believe on the contrary that from that fear we shall start afresh with a new vigor. But till then we can receive mutual aid in exchanging our experiences.

(Signed) AIME CHAMPIN.

Chateau de Salettes.

After a few remarks full of good humor made by various growers, Captain J. Chamon de St. Hubert was called upon to address the Convention and spoke as follows:

Being called upon by the chair to address you, I ask your kind indulgence, for I do not present myself here as an orator nor as a perfect viticulturist. I come simply to take part in your unselfish work, which must necessarily be of great importance to the commercial interests of California.

I come with a feeling of pure impartiality, and hence shall avoid wounding the feelings of this or that one, nor will I extol this or that quality of vines or wines, in short I shall simply tell you of my experience in the culture of the vine and the fermentation of the grapes both in France and in California.

Being of Burgundian origin it is natural for me to dwell more at length upon the production of that province and its vicinity, which by its viticultural production forms a distinct class.

Before proceeding I wish to affirm that wine, like bread, is an aliment which is largely consumed; and I do not fear to predict that at no distant date, when its sanitary properties are known, wine will be more generally used than meat. By the use of bread and wine man becomes stronger, more active, more enterprising, more courageous, more vigilant, more frank, and in short more of a man than by the use of any other nourishment. A little meat will not hurt anything, and while it is a primary element of food in the northern countries of Europe it is only a secondary consideration in France.

Gentlemen, America will soon be deeply indebted to the viticulturists who are rapidly establishing here an interest which will give her more wealth than all the mines of the "Golden West," and it is not to be wondered at, that our brethren in France are beginning to notice seriously, the rapid strides which California is making in viticulture. For instance, Auguste Dupre informs us that in 1796 the Jesuit Fathers had planted some French vines on the borders of the Mississippi river which were inspected by Mr. Dufour who at that time declared that though the wines there produced were not as agreeable as our French productions, yet they were not to be despised.

Thereupon the French Government succeeded in having these vines destroyed, fearing that their products might come into competition with French wines.

In 1862, says Mr. Durant in his work (a work particularly interesting to viticulturists and lovers of botany) the *oidium* having destroyed many of their vines the viticulturists turned their attention to American vines, and accordingly a great number of varieties were imported into France and were cultivated in the botanical gardens of Bordeaux and other cities. Among these were the following varieties: *Vitis Labrusca*, *Estivalis*, *Laribcea*, *Cordifolia*, *Riparia*, *Rupestris*.

I do not propose here to give you the history of these different varieties which have often been described in divers publications issued under the auspices of the State Board of Viticulture, but my subject here leads me to tell you that through this importation of American vines, the phylloxera was introduced in France. This assertion is denied by Mr. Guerin, member of the French Society of Agriculture, but maintained by many celebrated authorities such as Balbian, Cornu, Riley, Boireau, Mauria, Girard, Lichtenstein, who all assert that the pest made its appearance when the American vines were first planted at the same epoch at Roquemere in Gard, at Florac in the Bordelais, at Lognac, in hot-houses near Cologne in Germany, and at Klosterneubourg in Austria. These places were the cradles of the invasion of the phylloxera in Europe. This origin then cannot be reasonably doubted, and to prove this the French Government in 1874 commissioned Mr. Planchon for that purpose. From observations it is found that the insect can develop itself on American vines without altering their vitality, and this accounts for the introduction and propagation of phylloxera in France, which in 1867 appears near Angouleme and Bordeaux, in isolated cases, destroying several hundred hectares in the short space of nine years and spreading itself in all surrounding districts until 1878, when it had invaded almost all French vineyards, literally killing several important ones in 1879, when in 1880-1881 the climax of the incalculable ravages are reached, and from this time, thanks to the many means used to check the progress of the plague, the insect, in battling with the brave human efforts, loses ground daily, but seeks revenge by immigrating to Portugal, Spain, Italy, Germany, and even Crimea. Algiers, until the present time, has been spared, but American vines were never introduced there. It would be easy for me, here, to entertain you on the divers phases of the invasion of these insects, but I prefer to leave the task to the more learned, especially to those who are better acquainted with the latest theories and practices. I here enter upon the programme which I had traced out, namely, to speak more particularly of the wines and different vines of Burgundy and of the Jura. The wines of Burgundy are so renowned throughout the world that it is useless for me to praise their qualities and to recount their effects. The wines of the Cote d'Or are raised on hillsides, sheltered from the northwest by large mountains. This territory has an area of about sixty kilometres, and it is especially between Beaune and Dijon, that these celebrated wines are made. One peculiarity about Burgundy wines, or, to be more precise, wines from the Cote d'Or, is that in good or propitious years they need no blending or mixing to attain that perfection which so justly gives them their reputation. These wines have their peculiar bouquet, their "cru," but this perfection is reached only at the end of three or four years. In good years it is essential that each species be kept separately, as the mixing of two qualities of Burgundies destroys the bouquet of the wine. These wines, if they are well fermented, are delicate and spirituous, and if they are drunk with moderation, give tone to the stomach, facilitate digestion, warm the body, giving strength and vivacity in the highest degree. The natural soil is calcareous, with a rocky or gravelly subsoil.

The vines producing them are Black Pinot, or "noirien," and for the white, the Chardenet. The short pruning of the Pinots is an essential point for the viticulturist who wishes to obtain perfect and superior wines—he will obtain less grapes

by short pruning, it is true, but their quality will be exquisite—but if, on the contrary, he seeks quantity, he must have recourse to long pruning, this, however, to the utter detriment of quality. This is why the viticulturist of Jura says: "If the Pulsart is pruned short it is barren, if the Cabernet is trimmed short it is dead." The time of day for gathering the grapes is an important point for the fermentation of these grapes, and it has a direct influence on the quality of the wine. At Vougeot, at Chambertin, at Pommard, etc., the gathering commences at 9 o'clock in the morning, and ends as soon as the evening coolness sets in. Stemming is practiced according to the season. When the season is favorable enough to dry the stem, both grapes and stem are thrown together into the fermenting vats, and the effect produced on the quality is good; whilst if the season has not been favorable and allowed the grape to ripen and the stems remain green, it is necessary to have recourse to stemming. In the family of Burgundies, so-called, it is customary to introduce the wines from Doubs and the Jura, whose vines are, however, quite different, producing a wine which is quite renowned, yet, however, belonging to the second class, and which, contrary to the Pinots, in order to produce a perfect quality requires a proportioned blending of two and even three varieties. Let us here add in addition that the soil of the Jura contains much iron and gypsum. The principal vines of the Jura are the Black Pinot, the Trousseau, and the Pulsart for red wines, the yellow Savagnins and the Chardenet for the white wines. To these different vines it is necessary to add the Mennier, the Enfariné and the Margillien, which produce in abundance, but their wines are very inferior. The Pulsart is productive in heavy grounds, and Dr. Dumont, who is an authority in the Jura, tells us that it is an excellent vine which is distinguished by its leaves; these latter being of a delicate green, longer than they are broad, divided into five lobes with sharp denticulation. The bunches of grapes are large and long, and the berries oblong. These vines thrive best in soil having a clayey subsoil. To make a good wine it is necessary to mix the crop with Trousseau, Noirien and Enfariné. But as the Pulsart ripens later than the Noirien and the Trousseau it should be planted in localities which would tend to hasten its maturity. The Pulsarts and the Trousseaux are generally pruned long—from five to ten buds according to the soil—and the long canes are generally attached to props, but in America the pruning to five buds is quite sufficient. The wines which are obtained from the Pulsarts and the Trousseaux keep quite well in barrels for five years, after which they improve in bottles for fifteen years.

It has often been said that Burgundy wines cannot stand transportation, that they will not keep, and that they are gouty. Indeed many persons say this, but this popular error is rapidly diminishing. I have sent five-year-old wines of Burgundy, Clos de Vougeot and Beaune to Bombay, which, after remaining there three months, were sent to New York and kept in bond five Winter months, and from there were re-shipped to Dijon, where, after a few days' rest, they were sampled. They were found perfect—their color had not lost its charming shade, and on the contrary their flavor was perfect. What more can be said on this subject? In order that this truth may be understood it will be necessary to give the reason why the wines of the Cote d'Or had the reputation of not keeping. Burgundy, which had no means of communicating with other countries, except by canals, could not ship its wines without undergoing great risks at exorbitant prices, whilst the wines of Bordeaux districts having a port near at hand were sent in all directions. Now that the railroad passes through Burgundy, this latter place ships its wines all over Europe, and brings them in direct competition with those of Bordeaux.

As to their being gouty, why should they be so in foreign countries only? In a population of 8,000 souls in Beaune, there was not a single gouty viticulturist or wine drinker seven years ago, and in several localities the doctors assert that they never had a case of gout to treat.

I could not close this subject without speaking of Burgundies from a money point

of view, and consequently I must make a comparison between the principal vines of one family, which I will place on an equal footing with each other.

Let us suppose that "B" cultivates the Pinot while "D" has Cabernet Sauvignon, and that each makes the same quantity of wine from the same acreage of land. The vines being made according to all the rules of fermentation, "B" will sell one-third while "D" will sell all of his, for the wine produced from the Cabernet, mixing more readily with water, is preferable for a table wine, while the Burgundy can only be drunk pure or with roasts. Let us suppose further, "B" and "D" keep their wines for five years—the Burgundy will require no less than three rackings the first year, while one will suffice for the Bordeaux. During the two following years it will take two rackings of the Burgundy to one of the Bordeaux, which then may be left, being on the side, without more care, while the Burgundy will require continued care and racking each year. It follows then, that the Burgundy gives more work and consequently costs more than the Bordeaux. More than this, after having been kept for three years in barrels, if the Burgundy be bottled, it will not keep much more than eighteen months without staining the bottle, while the Bordeaux will remain three years under the same conditions before losing any of its coloring matter.

Before concluding, I wish to touch upon the vital question of the day, namely: the preservation of wines and the establishing of cellars for that purpose.

If we observe the wine growing districts of France we shall see that the well-to-do viticulturist makes his own wines and keeps them in his own cellar, which are constructed for that special purpose, while the fermentation, racking—in short the manufacturing of his wine, is left in charge of an intelligent and competent foreman. The vineyard is under the supervision of another whose duties do not conflict with those of the first. They are separate—the foreman of the vineyard with his force of men has nothing to do with the cellar, and vice versa, the winery men have nothing to do with the vineyard. The proprietor, if he takes great interest and pride in the product of his wines, is continually seeking to improve the different departments of his winery, cellars and vineyard, studies continually, reads and keeps pace with all experiments and improvements, the results of which he keeps imparting to his foremen, without, however, interfering to any great extent with their general mode of operation. He also buys the grapes of neighboring small vineyards, the owners of which keep only a sufficient quantity to make wine for their own use. But now, who sells this wine? Is it the viticulturist? No. I know of none, no matter how rich, who attend to this personally. The more famous the wine the less is the grower directly connected with its sale, for it is the same with the wine commerce as it is with that of all other products; the proprietor simply supplies the wholesale dealers, who, in turn, distribute to the retailers, whose business it is to bring their merchandise to the notice of consumers, and thus run their risks of gains or losses. It concerns the retailer very little as to how the vines were pruned, etc. All he looks to is the quality of the article he has for sale. If in it he discovers any superiority he gives it a name, advertises it largely, and brings it into renown.

In Europe, where wines are stored in warehouses, they are seldom found there in the name of a wine grower.

Now as to obtaining advances on wines whose reputation is not yet established, who will do it? It may be that about ten per cent could be raised, and yet under such stringent terms that the borrower would see no more of his wine.

Now the question to be considered is the feasibility of viticulturists uniting here to establish warehouses for wines wherein they might store and keep their wines. Were the world perfect this might be practical, but as we are far from being perfect the scheme is but theoretical. We must then say that the wine should never leave the owner unless it be sold, after which it must be abandoned to its fate in the hands of the dealer.

According to my opinion, the best thing would be for each viticulturist to build a small cellar, according to his means, where-

in to keep a few barrels of each year's wines for the purpose of experimenting and studying for the future establishment and reputation of a distinct "cru," and then to sell the surplus yield of his vineyard to merchants or manufacturers who ferment their wines separately without having recourse to artificial falsifications, which must surely prove detrimental to the reputation of our wines abroad. Proceeding in this manner the result will be that, after having established a healthy market for his wines, the fortunate wine grower will then be enabled to construct cellars and wineries in proportion to the reputation acquired by his products; whilst following any other course I foresee nothing but risks and disappointments.

MR. ADOLPHE FLAMANT.

Mr. Flamant then read the following paper on "Grafting the Vine."

At a viticultural convention held at Beaune, in 1869, Mr. Laliman of Bordeaux first called attention to the fact that certain varieties of American vines resisted the attack of the phylloxera, and since that time they have come gradually into use as stocks for grafting in restoring a portion of the vineyards which have been destroyed in France. The hardness of their woody tissues offers an impenetrable barrier to the proboscis of the insect, while the French varieties, whose tissues are less compact, fall an easy prey to its ravages.

To better appreciate that important discovery at its first value, it is well to recall that in the prosperous times which preceded the invasion of this plague, there existed in France about 2,400,000 hectares of vines, or 6,000,000 acres, and that of the number 1,400,000 hectares or 3,500,000 acres, have either been actually destroyed, or are now about to succumb.

During the year 1884, about 20,000 hectares, 50,000 acres, were planted with American resistant stocks, which, with those previously planted, form a total of about 52,000 hectares, 130,000 acres, now planted in American vines. But I regret to say that the phylloxera continues its ravages in France, and that more vines are already dead than have been replanted or have been saved by insecticides.

In the presence of this ruinous destruction, the vine growers of France are setting themselves resolutely to work. After many costly attempts and experiments without number, they have learned the value of resistant stocks, and that by grafting upon them the best French varieties, they will continue to produce the renowned wines of France, which, for many generations, have so largely contributed to the happiness and the prosperity of the country.

The operation of grafting is very simple, and I am sure, gentlemen, that there is not one among you who is not familiar with its details. You know that the earth must be removed from the stock, which must be cut off and split, and a wedge-shaped scion inserted, and that the new layers must be made to coincide with each other, and that it is necessary to tie or wax the point of union, and to heap up the fine soil around the lower end of the graft. But while this appears to be, and is in fact, quite simple, there are certain details which it is of the utmost importance to observe, and which, if neglected, are the source of the many failures, of which so much has been said. I will mention the following as those which appear to me to be the most important:

First.—Do not hesitate to graft young stocks as soon as they are a third of an inch in diameter. In France, where they strongly recommend grafting young vines one or two years old, an average of 90 or 95 per cent are found to take. While with stocks three or four years old, only 60 to 70 per cent succeed. And, moreover, as the first good crop depends upon the date of grafting rather than upon the age of the stock, it follows that every year's delay in grafting entails the loss of a crop. I followed this theory in the grafting which I have done, and to it in part do I attribute the flattering success which I obtained.

Second.—I strongly recommend the use of potter's clay to cover the wound. By its means we in a great measure prevent the growth of roots from the scion. And, besides it offers the great advantage of filling up the incision made by splitting all such stocks as exceed the graft in size. Otherwise, there is danger of the accumulation of matter in the cavities which forms reddish

excrecences at the points of contact, and which seriously compromise the success of the graft.

Third.—During the months of May and June and even in July, great care should be taken to remove all the suckers from the stock as soon as they appear, which will grow at the expense of the scion.

Fourth.—Do not allow any roots to grow from the graft. The use of clay around the point of union will not entirely prevent their growth. It will, therefore, be prudent to look for them during the season, and remove them if they appear, for, otherwise, the scion will grow independently of the stock.

Fifth.—The plowing in the vineyard should be finished before the grafting begins, and from that time till the end of the season, neither horse, nor plow, nor cultivator should be allowed on the ground for fear of loosening a large number of the grafts. Two or three hoeings by hand during the summer will be sufficient to keep the soil in good condition.

By scrupulously observing these simple precautions, and by employing careful workmen, we may expect that from 90 to 95 per cent will take, as I am happy to say was the case with me this year in grafting 60,000 vines. Eighteen men did the work in 28 days, and the following is an account of the cost:

18 men 28 days, 504 days' work at an average of \$2 apiece, including their board and all attendant expenses.....	\$1,008
Two tons clay, scions and tools.....	200
Removing suckers and roots.....	100

Total.....\$1,308

Which for the whole number of 60,000 vines grafted is equivalent to about \$22 per thousand. I also find that each man averaged 120 grafts per day, which I believe is as much as can be well done in a day per man. All this, of course, represents a good deal of expense, but not only will it establish a vineyard which will be safe from the attacks of the phylloxera, but a grafted vineyard will produce more largely than one in which the vines are on their own roots, and is not the last a sufficient reason for grafting all young vines whether resistant or not? And when we think of the phylloxera, that implacable and unassailable enemy which seems to have undertaken the destruction of the vineyards of the whole world, who would not be forearmed against him? We must understand that after 20 years' of experience of every kind in France, grafting upon resistant stocks is now recognized as the only efficacious remedy against the disastrous effects of the phylloxera. Between the resistant vines and the insecticides, it is the former which is winning its way in spite of the incredulous and the vacillating, who, in all ages and in all countries, are ready to cry out against new ideas and practices, which nevertheless march steadily on to triumph.

A letter was also read from Mr. R. Cheyrias, regretting his inability to attend the convention and giving his experience in tasting and cutting wines, and expressing his appreciation of the efforts of Mr. Wetmore in behalf of viticulture in California.

SECOND DAY.

MORNING SESSION.

The morning session of the second day was devoted to the further examination of the wines exhibited, and chiefly those made in the San Francisco District, and of the last vintage, made from varieties of recent importation, and from the few select varieties heretofore grown.

AFTERNOON SESSION.

Hon. M. M. Estee, being called upon said that the proper foundation in winemaking is a good vineyard and select varieties of vines. The time for planting Mission, Malvasiers and Muscats has gone by, and what Zinfandela are now planted are mostly confined to the hills. We must make a wine to please the world, and already there is a marked improvement in our wines on account of the importations of choice varieties of grapes. Climate is an important matter to consider. If the speaker had a vineyard near San Jose he would not immediately crush the grapes picked in the heat of the day in a temperature of 90 degrees and over, but would allow them first to cool down to 70 or 65 de-

grees. He believed in a slow but regular fermentation, and quoted from a French writer, whose opinion is that fermentation should continue from six to ten days. The same author says that the sugar may ferment out in four days, but that so rapid a fermentation is at the expense of the delicate essences which would be developed by a slower fermentation. In making the fine wines of France, they cover the tops of the tanks with burlap and other material and in some cases lute the cover with plaster of paris. They leave the wine in the vat for eight or ten days, not less than eight. They use the pomace left after drawing off the wine, and by the addition of sugar and water make wine to ship to America. He believed that the temperature is more regular in closed vats, and that the use of open tanks does not make so good a wine. The French Government has appropriated \$250,000 to assist poor vineyardists to renew with resistant stocks their vineyards destroyed by the phylloxera. He read from an official report showing the progress of the pest in that country. Comparing the whole number of acres planted in vines in California with the area already destroyed and infected by the insect in France, he had no fears of over-production here.

In answer to a question by Mr. Wetmore, as to how he could explain the fact that the French writers are generally in favor of rapid fermentation, he said that it is generally too slow in France while it is too rapid in California.

Hon. John T. Doyle said that last year he made wine from Zinfandel grapes which had 26 per cent of sugar. He drew the wine from the lower part of the tank and pumped it over, letting it run back into the tank at the top, and repeated the process daily during the fermentation. His theory was that as the mass at the top was warmer than at the lower part of the vat, by thus pumping it over he could equalize the temperature. The false head was submerged about three inches in the liquid. After drawing off the wine it still contained unconverted sugar, and it did not complete its fermentation during the winter, and still contains some sugar.

Prof. Hilgard thought that the sweetness was due to mannite in the wine produced by mannitic fermentation, and was of the opinion that the false head should have been submerged much deeper.

Mr. Doyle said that he had read that in France they sometimes use two or three perforated heads to divide the mass.

Prof. Hilgard pronounced this a rational practice.

Mr. Estee suggested that as fermentation is better in shallow vats, the dividing of the mass by means of false heads might be equivalent to fermenting in two or more shallow tanks.

Prof. Hilgard said that when the temperature rises above 90 degrees, fermentation will be checked.

Mr. Wetmore thought it would have been better if Mr. Doyle had stirred the mass instead of pumping over the wine. There are two different degrees of violence in the fermentation in the tank; one in the marc and another in the liquid below. The best way is to avoid too deep tanks, but if they are too deep, stir the mass thoroughly.

Mr. Doyle gave his first experience in making wine. Five years ago he had some grapes on hand, and as it was too late in the season to sell them to winemakers who had ceased making, he procured written instructions from a Frenchman who, among other things, told him to crush the grapes by treading with the feet. He procured a horse-trough, got a man, had him wash his feet thoroughly, set him to work treading, and kept him at it all day. The great difficulty was that the grapes would slip out from under the man's feet, and he could make no progress. It seemed that the foot of man had been specially contrived not to do it; there is no flat to it. However, he got a strong Irishman who finally succeeded.

Mr. Wetmore said that they did not experience that difficulty in France, because they tread the grapes on a platform so arranged that the must flows off as fast as the grapes are crushed.

Mr. Doyle said that he also experienced great difficulty in keeping all the casks full. He could easily fill one barrel from another till they were all full but the last, and the only way he could fill that one was to put

in gravel. When he sent this wine to San Francisco, the merchant smelt it, and that was enough for him. It seems that a good deal of sulphur remained on the grapes from the last sulphuring, and between that and the Irishman's feet, the wine had a detestable smell, that he was obliged to sell it for ten cents a gallon to make a wish.

Dr. J. D. B. Stillman gave his experience in fermenting a small lot of Zinfandel in barrel. The grapes were of the second crop and picked in December and were over-ripe. It remained two weeks without fermenting at all, when he added a small amount of yeast, and fermentation started and went through and produced a good wine.

Mr. Wetmore here reasserted that the best French authorities recommend prompt and rapid fermentation, especially of a wine, and quoted from many works to sustain him. That a hot fermentation could be avoided by fermenting in low tanks has been proved by many experiments, even when fermentation was accomplished in two or three days. [The reporter, understanding that the authorities quoted will refer to more fully in a publication of the Commission, has therefore condensed the remarks by the speaker.—REPORTER.]

THE BIOLOGY OF FERMENTS

Remarks of Professor W. B. Risi

Before entering upon the subject of fermentation as a scientific study a few words on the practical side may not be out of place. I shall attempt then, very briefly to contrast fermentation as a practical problem with fermentation as a scientific study, or what is the same thing to consider the art and science of fermentation. I do it that we may not misapprehend the aims and methods of science. A scientific principle may be misunderstood and consequently misapplied, but the resulting error is not to be charged to science.

Art has but one problem to solve, viz., to accomplish a certain end in the most economical manner. The commercial element is the only one that enters into the solution of the problem. It matters not whether the process be understood in a scientific sense of the term or not, if it be successfully carried out the result is practical success. Practice then is conservative, it travels along the well-beaten road of success and aims not to deviate from it either to the right or to the left. Experience has pointed out many of the falls and mire and rough places if it is not always been able to point out a way whereby they can be avoided.

The aims of science on the other hand are far different. Science knows not of the commercial element, its only aim is the discovery of truth. Its aim is to understand and explain processes. It attempts to discover and demonstrate general principles, i. e., given a certain cause acting in a given way and the same result will inevitably follow. Change the conditions and the result is correspondingly changed. In a word, the aim of science is to discover and explain the causes of phenomena of nature. Its methods are experiment and comparison. It is only a small part of the problem to consider profit to which a given principle can be applied. It is true that many a science has opened the door to practice which otherwise must have remained ever closed.

Now fermentation has been carried on for unnumbered years. It has been carried on too without any knowledge of the science of the subject, and yet has, in many places and at many times, attained the highest success. It is indeed doubtful whether science can ever add anything to this success. But there are times and places where art must confess itself helpless, and only appeal to science for help. The fact science would know the cause of evils complained of, and could insinuate the remedy if there was one. Our apprehension of science is not a perfect, and consequently in its application we are liable to make mistakes. So a science must go hand in hand. Constructive art must keep all that has been gained by practice, all that experience has found to be of value. Science, youthful, I have most said in its infancy, must modestly follow art, trying to explain and comprehend what has been accomplished. Its op-

nity will come when it is sufficiently developed, it will guide and direct art, it may even create new arts. Science may be compared to sight; it is to the mind what sight is to the eye. Art without science is blind. It has but one object, as already stated, viz., to reach a certain goal as directly as possible. If the path be straight and well beaten, it may not need the eye of science. But, if the path be winding, if there be cross-paths and labyrinths, then the full power of a perfect vision will be needed to guide it. I have said our science is not yet perfect, that is, our sight is not in all cases clear, there are obstacles before the eye; there are fogs and clouds to obscure the light. We must cultivate and strengthen the eye. We may be able to discover the nature of the obstructions to our vision, and so judge of the position and direction of the path which leads to our goal. There should be no conflict between science and art, there can be none when the object and aims of both are understood.

It is not my purpose at this time to enter upon the history of the theories of fermentation. I will mention but briefly the one advocated by Liebig, and which preceded the one now commonly accepted. This may be styled a pure chemical theory. In substance it was this: Certain nitrogenous substances when brought in contact with the air under proper conditions, were very subject to decomposition. Now the chemical action begun in these, induced chemical action in other bodies, according to their nature and condition. The first were ferments and the latter fermentable bodies. I will only say of this, that, notwithstanding the influence of the very distinguished chemist who advocated it, it has been entirely given up. In its place the germ theory has been universally accepted. The somewhat heated contest over the theory of spontaneous generation will be remembered by many. This was a purely scientific discussion with, at the time, little apparent application to the arts. The outcome of this discussion was the discovery that the air was full of floating germs every where present and which could develop a power of life and growth almost incredible. It was but a step, and a natural one, to inquire whether these germs were not in some way connected with fermentation. Yeast was known to be an organized living body, it induced fermentation. Was not all fermentation in like manner connected with or due to a living and growing organism? Pasteur had discovered that a certain microscopic organism was invariably present during lactic fermentation. He satisfied himself that this fermentation was due to this germ which he called the lactic ferment. Turning his attention to alcoholic fermentation he found that certain other organisms always accompanied that fermentation. Without these organisms or germs there was no fermentation and hence the inference that there could be none. Whatever interfered with the growth and development of these germs interfered with the fermentation. The presence of other germs, for example, the lactic induced other fermentations, lactic, etc. These germs if not the direct cause of fermentation are inseparably connected with it. The study then of the life history of these germs, their structure, growth and development, and reproduction now becomes one of great practical importance.

This theory harmonizes with the theory of decay and the germ theory of disease. These are a natural outgrowth of this theory of fermentation. A new field was thus opened to study and very many and important applications have been made of it in the arts and in medicine. I cannot refrain from calling attention to the tribute paid Pasteur at a late meeting of the British Medical Association. He was present as a guest although not a medical man. When the President, Dr. W. B. Carpenter, referred to the value of Pasteur's discoveries to the art of medicine, the whole Association rose to their feet, to honor the man who, though not a physician, had done more than any of their number, yea, more than any physician living to advance the rational practice of medicine.

A statement of the germ theory in general would be this: certain germs, the product of definite organisms, more or less widely distributed in nature, often suspended and remaining suspended for a long time in the air, finding a suitable lodgment

in organic substances, either living or dead, develop immediately a tremendous power of growth and reproduction. They now become the cause of certain changes, chemical or pathological. Each germ has its own life history, its conditions of growth and its own peculiar changes which it occasions.

It is our purpose to consider more closely those which produce alcoholic fermentation. These are classified under the generic name of Saccharomyces, and of this genus there are some eight or nine species. These are organisms of the simplest kind, believed to be of vegetable origin and consisting of a single cell swimming in the liquid in which it grows. These different species differ from each other in outer form, size, method of reproduction, etc.

I will first consider the ordinary yeast or beer yeast and beer fermentation. The ferment in this case has received the name Saccharomyces Cerevisiae. In form it is composed of single cells connected together in clusters—propagating by buds. In this beer fermentation we distinguish top and bottom fermentation. The ferment is the same, or at least is believed to be the same, in each case, only in the one case it has been used so long at a given temperature that it has almost formed a new variety. These terms top and bottom fermentation are used to designate the fermentations which are now carried on at very different temperatures. The top fermentation is the one which has ordinarily been used in brewing beer in this State. It is the fermentation which takes place at higher temperatures. It is called top fermentation because the carbonic acid which is liberated so rapidly carries the yeast with it to the top and is covered with a large amount of froth or foam. This fermentation takes place at sixty degrees or a little above and is rapid and soon over. In the bottom fermentation the carbonic acid is liberated slowly and does not carry the yeast to the surface in any large quantity. The temperature does not, much if any, exceed 40 degrees, and lasts a long time. Instead of being over in a few hours as in the case of the top fermentation, it lasts three weeks or more. The yeast in these two fermentations is believed to be practically identical, or at the most, to be merely different varieties of the same species. They have grown apart, or developed slight differences, because of the different conditions under which they have been developed. The top yeast which has been produced at the higher temperature can, by cultivation and by gradually lowering the temperature, be made to perform the functions of the low or bottom yeast. In like manner the bottom yeast can be made to generate the top fermentation. The ordinary wine yeast is a different species, or more correctly, probably we have more than one species of wine yeast. The common form is known as saccharomyces ellipsoides. Many chemists have believed that here the same distinction of top and bottom yeast may be distinguished as in the case of beer yeasts. What is true is this: Grape juice may be fermented within a wide range of temperatures. The Rhine wines are, as a rule, fermented at lower temperatures, and correspond very closely to the bottom fermentation. In warmer countries the fermentation takes place at higher temperatures and may be termed top fermentation. But as it has not been the custom to add yeast during the fermentation, the natural yeast, so to speak, of the grape has not been cultivated for a series of years at either the one or the other temperature, and, consequently, has not developed the varieties that we see in the beer yeast.

I will not proceed with the enumeration of the various species of saccharomyces. I have mentioned the more important species and some of their distinguishing characteristics. They are minute cells, seen only under a good power of the microscope, they grow by budding or by division of the parent cell. The cells differ slightly in outward appearance, size, in the manner in which they are clustered together, etc., yet, in the main they maintain a strong family resemblance, they all induce alcoholic fermentation. What slight differences they may occasion in this fermentation, which give rise to the more desirable products remain as yet an unsettled problem. While considering the outer forms of these ferments, I ought to mention that, while the ordinary method of reproduction is by the growth of

a new cell upon the parent, a bud, or by the subdivision of the parent cell, they can produce spores, which perform the function of seeds. This is more apparent in the grape yeast than in the beer yeast. These spores have been observed upon the skins and stems of the grape, but, not so far as I am aware, the yeast cells themselves have not been so observed. These spores introduced into the proper liquids quickly develop into yeast cells, and induce alcoholic fermentation.

We will next consider the conditions necessary to the proper growth and development of these ferments. And first of all should be mentioned the proper liquid. This is the sugar solution, fulfilled in the ordinary grape juice. It will be noticed in all the various fermentations and in decay that the substance suitable for the growth of the germs, is, in all cases, one of a highly organized or elaborated composition. It has been built up by plant life originally, and has stored up energy within itself. It is a combustible body and capable of liberating a very considerable amount of heat during its decomposition. As a second condition the liquid must also contain a nitrogenous compound, and as a rule, the more highly organized the better for this purpose. And finally the liquid must contain certain mineral matters such as phosphates; potash and magnesia salts.

It will be noticed that these ferments live either exposed to the air or submerged in the proper liquid away from it. They will live upon the sugar solution and attain their most luxurious development when exposed to the air, but they perform but imperfectly their functions as ferments. Immersed in the liquid they grow and develop, but not so rapidly and luxuriantly as in the air, but are far more active and efficient as ferments. In this growth in the air, we observe the formation of the spores, but when submerged in the liquid, we have the propagation taking place by budding or by division of the parent cell. Contact with the air gives strength and vigor to the yeast germ, and enables it the better to perform its functions as a ferment when again submerged in the fermenting liquid. Oxygen is a necessity for the growth and development of the yeast, it takes it by preference from the atmosphere, but when it cannot get the free oxygen then it takes the combined oxygen of the sugar and converts it into carbonic acid and alcohol. I have already mentioned nitrogenous matter as an absolute essential to the growth and development of the yeast germ. The more highly this nitrogenous matter is organized the better it serves its purpose as food for the germs. Liquids which otherwise would sustain a vigorous fermentation do so but feebly, because of the lack of nitrogenous matter. It is true that a fermentation has been carried through without the nitrogenous matter, but it was feeble and liable to be checked. The yeast at the end was decreased rather than increased in quantity, and was sickly. If this yeast should be used in repeating a similar experiment it would fail. In the first case the nitrogen of old yeast was fed upon by the new growth and so life was maintained for a time.

I have mentioned that certain inorganic salts were necessary to the proper growth and development of the yeast germ. These are potash and magnesia salts, and phosphates. The matter of temperature I have already discussed sufficiently. Suffice it to say that it takes place within a wide range of temperatures from a little above the freezing point of water up to 130 degrees. It is most rapid at 95 to 104 degrees.

If we will remember that the yeast germ is a living organism, and consequently is affected by all those influences which affect living beings, we shall have some general guide or rule in judging of how various changes may affect it. A class of substances are poisons to it, some germs resist more than others. These poisons may be used to check or destroy fermentations, but as a rule poisons to the germs are more or less poisons to human beings. Consequently we have but little hope of finding preservatives which are entirely harmless. A temperature above 130 degrees will destroy the alcoholic ferments, upon this fact is based the practice introduced by Pasteur of preserving wines by heating them till every germ was destroyed.

When speaking of the germ theory in

general, I referred to the wide distribution and great abundance of germs in the air and upon every object exposed to the air. Not alcoholic germs alone but of the most varied character. The question at once arises, why have not these other germs developed and so given rise to their corresponding fermentations. The wine grower is obliged to answer that all too often this is the case. And this is what is known as the disease of the wine. We may assume, I think, that the grape juice is especially a proper fluid for the development of the alcoholic ferment, and not so favorable for the development of other ferments. The acids and tannin which it contains are poisons, or at least do not favor the development of the lactic germs. Neutralize the acid and you will then give the lactic germs a better opportunity. You will then stand a good chance of finding lactic acid in your wine. To repeat, the grape juice is especially favorable to the development of the alcoholic ferment and it immediately pre-emptly the ground to the exclusion of other ferments. In the case of beer we add good, healthy yeast, and don't wait for the spontaneous fermentation, which would naturally set in. The wort being nearly or quite neutral invites other fermentations, and the brewer to anticipate this, adds his yeast so that the alcoholic ferment shall have the field.

To recapitulate, each ferment has its own conditions of growth and development and produces its own characteristic products. Diseased germs and diseased fermentations are simply germs and fermentations which produce undesirable products. If we can exclude these germs, or can make the conditions such that they cannot flourish or give the field to the desired germs and thus practically exclude them, we may hope to prevent diseases in our fermentations.

As I have devoted a good deal of time to the analyses and study of some so-called "milk sour" wines, I will say a few words upon this subject. The samples which have come under my observation and which are called typical "milk sour" wines, have, in addition to the disagreeable acid contained mannite, so that I cannot help expressing the conviction that there is connection between the occurrence of the mannite and the objectionable acid. What I express at this time is only tentative, as I am engaged upon the investigation of this point. We know that mannite is formed during the so-called mannitic fermentation, and can be observed in the fermentation of the sugar beet. A characteristic and definite germ has been recognized. It is still an open question whether mannite may not be produced from sugar by still another ferment. At another time I hope to give a definite report.

PROFESSOR HILGARD.

Professor Hilgard said that he considered it a matter of very great importance whether the grapes were crushed hot or cold. He agreed with Mr. Wetmore that fermentation should start as quickly as possible, but he preferred the use of fermenting must to yeast of any other kind, when occasion arises to use anything to start it. As to the proper temperature in which to commence fermentation, it depends a good deal upon the outside temperature and the kind of grape. Burger will go through soundly, when, under the same conditions, a Malvasier would not keep six months. The heat of the French sun is very different from the heat of the California sun. If fermentation started at 110 deg. it would immediately run to 120 deg. or 125 deg. The French regulate the heat by stirring in the vat, but the caps should not be mixed with the wine. A thin layer of wine above the perforated head becomes too much heated, but sinking the head lower, leaving a thick layer of wine above it, tends to equalize the heat in the whole mass. In our climate, he favored the submersion of the perforated head.

Excessively long contact of the pomace with the wine in the vat is not desirable, and to find out when the color is extracted, take a grape skin and hold it up to the light, and if the juice squeezed out between the finger and thumb is no darker than the general mass, draw off the wine, though if there are no unsound grapes it may be safely left longer. Stirring, *fouage*, is, however, better than long maceration. As to rapid and slow fermentation authorities differ, but if wine is to be soon consumed it may be fermented rapidly, but wines to

keep should be fermented more slowly. In cases of imperfect fermentation and consequent danger of disease he favored heating the wine according to Pasteur's method. At the University fermentation was carried on slowly at a moderate temperature. But two grapes were found, of southern varieties, which went wrong. For these grapes the temperature was too low.

The temperature suitable for Bordeaux varieties was not favorable for fermenting them, but it was not for the want of germs, for other varieties grown along side, fermented well.

In answer to a question by Mr. Wetmore, on the matter of slow or rapid fermentation, he said that we have so many different kinds of grapes and climate that the practices must differ according to the different conditions. One practice will not apply to all. He thought that as many authorities in favor of slow fermentation could be found, as Mr. Wetmore had cited in favor of rapid fermentation. However, the dry wines of the south of France and Spain do not keep without fortifying. Some varieties of grapes make wine that will keep under almost any circumstances.

EVENING SESSION.

Mr. Wetmore alluding to the exhibit of wines made from varieties of grapes of late importation, said that the lesson to be learned is, that they produce here substantially the same types of wine as they do in France. He advised the planting of tried varieties, and advised only experiments with unknown grapes. If a variety is unknown, as a rule, it is a poor one.

As to fermentation, he insisted that the conditions here are not those of the Rhine. Fermentation will be much easier on the coast than in the hot valleys of the interior of the State, and instanced several cases of fermentation not commencing as it ought, even where there was plenty of heat. Fermentation must then be assisted, and he advised the addition of a small quantity of yeast. One way to use it is to mix a small quantity of brewer's or compressed yeast in a tub of must, stir it well, and let it stand over night in a warm place. The next morning it will be found in active fermentation when it should be stirred into the mass in the fermenting tank, and it will be found that fermentation will readily commence. Water will also assist fermentation of rich musts.

In our warm, dry climate, ferment germs, like those of mildew, are often wanting, and in this way those necessary to start fermentation can be supplied. And where there is too much sugar in the grapes, a little water may be safely added to assist fermentation.

The following paper was then read by Mr. F. Pohndorf on Burgundy wines and Sherris:

BURGUNDY WINES.

If the wines of Burgundy have not by far won in commerce that important place which the product of Bordeaux has for a long period occupied, the quality of the former does not cede the palm to the latter, although the character of both is different.

Nature seems to have laid in the soil and climate of California elements which, to judge from results, tend to produce in our wines, a greater similarity to the composition and expression of the wines of Burgundy.

Two questions were required of me to answer. The first, are Burgundies good wines? The favor Burgundy wines in general and the high class ones among them have, from immemorial times, enjoyed in the land of their production, where good taste is abundantly represented, and in other countries, can reply to that question. We may feel proud of successfully emulating the production of such distinguished wines.

The second question is: Why is it that Burgundy wines are not good travelers? Not having the advantage of personal observation of the process of vinification in Burgundy, I cannot reply with persuasion to that question. Only a superficial acquaintance with the different types of Burgundy wines can not either entitle me to any degree of certainty on the subject. There is among us one or the other grower who can throw better light on the same. The importance the Burgundy-type wines have for a number of persons here who cul-

tivate varieties the Bourguignons grow, will render it most interesting to hear the opinion of any gentleman who has had occasion to be instructed on the matter in the old country. Meanwhile, in order to find some information, I have consulted an author of the Cote d'Or, Mr. C. Ladrey, whose book on the art of wine-making will be a pretty safe guide.

To criticise methods of a region which practice and results have sanctioned, would be insolence on the part of my humble self. But not a man who has mastered the rudiments of practical wine-making will dissent from the principle, that we have to consider the raw material for wine, the grapes perfect for the purpose when they are all and every bunch of them of an equal degree of maturity. This, I think, is proved and approved of everywhere. There may be deviations from this rule for the manufacture of certain types of wines, and we might suppose that in France, the country of eminence in our industry, people know pretty well how to reach results they desire to obtain from the grapes. But still, the Cote d'Or seems to cling to the prescription of an old proverb quoted by Mr. Ladrey, that for a good and complete (Burgundy) wine, grapes in three stages of maturity are to be used; ripe grapes, grapes yet green, and others past maturity, raising (figue).

Seemingly, the elements present in such juices united ought to clash in fermentation. And that after accomplishing that action for the quickening of which it is said most violent means are used, the harmonizing of heterogenous matters will require a long time, seems equally logical.

Climatic difficulties appear to be in the way of an absolute maturity of all the bunches on the vines in Burgundy. The custom of following the rule of the proverb seems the consequence of those obstacles nature causes. It is the more creditable to the Bourguignons that they are able thus to reach the qualities that distinguish their noble wines. But Monsieur Ladrey does not approve of the system and expresses the opinion that in following the principle of gathering at different seasons equally ripened grapes and employing them in several separate vinifications, a better result is reached.

On the other hand Mr. Ladrey dwells on the habitual method of, if possible, putting one-half of ripe grapes with one-quarter of immature and one-quarter of over-ripe grapes, for fermenting and suggesting several hints for following it, because the possibility of in most years and in certain locations gathering the grapes in right maturity seems not to exist.

Practice, as is said, has enabled the Bourguignons to use, and to a degree harmonize the unequal proportioning of the elements contained in the differently matured grapes. But it seems plausible that they cannot control absolutely the tendency of the wines made in that manner to become unruly in traveling and after navigating. The beauty of taste and bouquet of Burgundy wines, developed by laborious and patient nursing in the cellar and finally in glass, is sure to be disturbed in many cases when they change site, undergo violent continued motion and suffer the influence of a different temperature. The union of the differing component parts of the wine, which has besides the property of throwing off for years tartar, might require more time to have all albuminous matter precipitated and separated, so as to be able to brave any and every contrary circumstance and remain bright, as wines from grapes of equal maturity and rightly fermented are able to be after a few years. Persons more intimately acquainted with the grapes, musts and wines of Burgundy will correct my suppositions, although Monsieur Ladrey, whose book in 1881 saw its fourth edition, may be presumed to be an authority on the subject, and I simply follow his observations in what I advance. If these conclusions have, therefore, some degree of certainty, then it follows that for us it is not advisable to adopt the method of mixing unequal grapes to approach our wines made from the Burgundy varieties in our vineyards to the style which commercially is established. By carefully comparing our wines from those varieties with the originals from France, we may probably become persuaded that by well fermenting our grapes, and this can be done only by proper uniformity of them, the inherent virtues and

qualities will be brought out in a shorter period of nursing. Our climate does not put those obstacles the Bourguignons encounter, in our way when vintaging and we can with comfort, avoid the elements of unripe grapes in our fermenting tank. How far over-ripe grapes will assist, or impede, in obtaining a wine richer in flavor or body, will be a matter of practical experience. To perfect or improve our product should be the desire and the work of every grower. The Burgundy varieties of vines do well in California, and we are certain of presenting most creditable wines of character. We know that a wine well and carefully fermented and nursed for a reasonable period will travel and navigate without any risk of impairing its quality. By reasonable procedures we shall have advantages over the model wines in that regard.

In searching for opinions from Burgundy on the method of putting grapes uncrushed into the fermenting tank, I find that Mons. Ladrey states on page 9 of his book, as follows:

From old times the usefulness of crushing the grapes previous to their being put into the fermenting tank has been recognized. This practice insures the impregnation of the fermentible liquid by the germs of the ferments producing fermentation. The more complete the crushing the more perfect that impregnation and the safer every particle of the liquid being reached.

On page 69 he says: The grapes ought to be crushed before fermentation. All parts constituting the grapes must be mixed intimately. The solid parts are then bathed in the juice which is in contact with the exterior air, and all substances existing on the surface of the grapes. Stirring will mix intimately.

On page 93 Mr. Ladrey says: Sometimes, and it is the practice mostly in use with the Burgundy vigneron, particularly when common wines are to be produced, people content themselves with simply throwing the grapes into the tank and leaving them to themselves without any further preparation.

In that case it is important to note that the state of maturity of the grapes and the absence of precautions during gathering and transport to the tank and when put into the same, cause a large quantity of bunches to be torn, the juice is scattered over the mass, and fermentation can begin and continue more or less completely.

But for a long time it is proved that it is preferable to crush the grapes in a more complete way, be it by tramping on them in the vessel in which they are carried away from the vineyard, or in the tank, or by crushing them in the mill between cylinders. Fermentation is thus given scope to begin and continue perfectly, as the germs are at once distributed over the entire mass of the liquid.

Von Babo mentions without comments the Burgundy process of putting the grapes entire in the fermenting tub, and Mach in his Technology of wine calls it a curious process on the value of which no comparative proofs are at hand.

SHERRY.

The subject of fermenting juice from grapes proper for wines of the sherry character is easy to treat and understand. We have recognized that the methods whereby a white wine may be fermented thoroughly are the right ones, and every vintner has striven to attain that end. His interest has shown him to do all he can to favor and conduct fermentation to its due end. Our mutual studies and practical trials tend to make every one capable of doing it. Simple and not at all saddled with secrets as the work of vinification is, still many a small circumstance which is to be observed and encountered that puzzles even the experienced, has to be investigated. Our lively and united search after the way of the right application of every rule is a necessity for the advancement of our industry. A wine which in the Spring will begin anew an after fermentation, is certainly imperfectly handled, or has inherent in it difficulties to its normal development. A young wine taken from the fermenting vessel before an observable remnant of saccharine be altogether fermented away, and comes out with a sweet or sweetish taste, is not a wine upon whose future we can rely. This rule applies to wines for sherry destinations, as much as to the most delicate Hock character wine.

A well fermented wine from varieties that are adapted to the heavy, full-bodied wines of low acid proportions and with the capacity of bringing forth those ethers which are the flavor and taste—requisites of sheries—which is able also to live and develop its taste and flavor—elements by oxidation under nillage in the cask, will be the right basis for that kind of wine. The varieties for the purpose are exactly what will enable us to produce such wines.

We are justified in continuing the violent ageing of ordinary white wines by baking, for the supply of sherry, as the market has been accustomed to be supplied with from California, as long as we do not harvest grapes of varieties that will allow us to obtain wines of true sherry type. There is the certainty of in a few years having such wines from the true sherry varieties acclimated in our soil. It is a matter of satisfaction to observe how well these varieties take to our soil. There is likewise the proof on the part of the first propagations of them, that the wine from their fruit will, by rational treatment, naturally give us a pretty good similarity of the precious qualities of the originals. Thus we may consider ourselves on the way to hopeful results. We may suppose that these varieties will be of minor importance to the growers of the bay counties generally, and still, we have seen so many surprises and results outreaching our expectations, that we cannot consider these counties debarred from the advantages which may, with certainty, be predicted for the hotter regions of the State, where accompanying root-feeding conditions are as favorable as those of the climatic ones for success with true Andalusian varieties. The nature of white wines grown in the hottest belt of the extreme south of Europe seems to be rich in elements of preservation, under circumstances which to the wines of a far more delicate construction, and infinitely higher expression, the lighter wines of the privileged counties in which every one of those represented by the San Francisco District is included, would be fatal. The delicate ethers of these wines are not present in the wines of European southern growth. The acids of the latter are proportioned in less quantity, tied up by a more spirituous vinosity. The influence of climate is sure to enter into the composition of these wines. This influence begins the moment of trituration of the grapes. It conditions the result of the fermentation which, as a rule, is lively. The proportioning of albuminous matter in grapes of southern growth is different from that of grapes grown in cooler regions and fermented under different circumstances. The composition of the air according to its more or less content of oxygen will affect the result of fermentations in different regions. Doubtless we may obtain from southern grapes fermented in a cool region as in one of the more northern coast counties, a product which will probably be more retentive of the delicate taste and flavor conditions than the same grapes fermented rapidly, more violently, in certain locations of the South.

As a rule the tumultuous fermentation of the juice of the berries from the Andalusian varieties in the South of Spain sets in when the juice runs direct from the crushing trough into the pipe in which it is vinified. The labor of converting all the sugar of the grape, the first violent fermentation having subsided, goes on constantly for months. The presence of an enormous amount of albuminous matter retards the complete settling. Wherever it is possible to allow fermentation under circumstances of lower temperature it is taken advantage of. As has been mentioned, the result from a fermentation less violent and more even, in fact a very slow one, is a more perfect wine.

We should, wherever it be, try to aid nature in this regard and regulate the action of the ferments in the case of the wines from true Sherry grapes as much as in making the lighter wines, the beauty of which depends in equiposing their acids with their other delicate ingredients. The idea prevails that Sherry is a sweet wine. In that shape it is known, as it is prepared in Spain for export by an addition of sweet wine for rendering it palatable according to the established tastes in the markets of consumption. But the natural Sherry wine is absolutely dry, is a fully fermented wine.

Only in such a form will all the generous and delicious flavors that lie in the grapes of the true varieties come forth and by oxidation develop and express their beauty which for many years seems to grow and are to say so inexhaustible. The sweet wine from the valuable Pedro Jimenez grape has been for ages the legitimate factor for rendering the Sherry wine more amiable to the palate without taking away any of the expression of taste and flavor of the dry wine to which it is incorporated.

The Pedro Jimenez grape fulfills a treble purpose. It is a good raisin grape. An excellent dry wine of great alcoholic strength, rich ethereal expression and splendid taste is made of it. And thirdly the sweetening wine is made from its juice very rich in sugar.

Presuming that there are sites in the districts represented by this Convention where the circumstances are favorable, and without wishing to excite to leave off in your zeal to produce the wines in which success is certain and which are the staple wines, it will be worth studying and trying on a moderate scale what probabilities there may be for success with the true Sherry varieties. And this for the reason that particularly where there are good soil conditions, where the soil has in its composition a rich proportion of lime, it may be quite probable that delicate and superior Sherries can be produced.

The Chairman laid before the Convention a communication made to a German Chemical Journal by Mr. J. L. DeFremery, now in Germany, giving the results of the analyses of two California wines made in that country, which are of interest here, being, perhaps, the only complete analysis of a California wine ever before published. The translation is as follows:

"The two wines whose analyses are here given, came originally from Sonoma county, California. I am indebted for them to the kindness of Mr. C. A. Wetmore, Chief Executive Officer of the Board of Viticultural Commissioners of California, who obtained them from J. Gundlach & Co., San Francisco.

The Zinfandel (1881) is a red wine of violet-red color, the Cabinet Gutedel (1878), a white wine of yellow color.

IN 100 CCM WINE WERE FOUND:

	Cabinet Gutedel. 0.99073	Zinfandel. 0.99232
Specific gravity	.....	.....
Alcohol percentage by weight	..... 10.45	..... 9.8
Extract	..... 2.0908	..... 2.1270
Mineral matter	..... 0.1978	..... 0.2218
Volatile acids (calculated as acetic acid)	..... 0.0804	..... 0.0972
Non-volatile acids (calculated as tartaric acid)	..... 0.4845	..... 0.4110
Tartar	..... 0.1579	..... 0.1428
Free tartaric acid	..... 0.0060	.....
Other free acids (calculated as tartaric acid)	..... 0.5850	..... 0.5325
Sulphuric acid	..... 0.0384	..... 0.0168
Phosphoric acid	..... 0.0220	..... 0.0193
Chlorine	..... 0.0036	..... 0.0054
Lime	..... 0.0056	..... 0.0084
Magnesia	..... 0.0170	..... 0.0160
Iron	..... 0.0009	..... 0.0010
Alumina	..... 0.0003	..... 0.0001
Potash	..... 0.0973	..... 0.1055
Soda	..... 0.0049	..... 0.0035
Glycerine	..... 0.6133	..... 0.5647
* Sugar	..... 0.0660	..... 0.1140
Polarisation	..... +0.2	..... +0.
Polarisation—after inversion	..... +0	..... +0

* The determination for sugars as first published was corrected in the report sent to the Commission.

The following determinations were made, but which I place separately on account of the want of reliability of the method:

	Cabinet Gutedel. 0.0068	Zinfandel. 0.0097
Succinic acid	.....	.....
Malic acid	..... 0.0324	..... 0.0922
Citric acid	.....	.....
Boric acid	.....	.....
Salicylic acid	.....	.....
Sulphurous acid	..... trace	.....
Carbonic acid	..... trace	.....
Sulphurated-hydrogen	.....	.....
Nitric acid	.....	.....
Gum and dextrin	.....	.....
Tannin	..... 0.0317	..... 0.1554
Coloring matter	..... 0.0085	..... 0.0520
Fuchsian	.....	.....
Rosanilin sulphate of sodium	.....	.....

The following letter was read from Dr. May, late Chairman of the Committee on Ways and Means of the Assembly at the last session of the State Legislature:

SAN FRANCISCO, May 20, 1885.
C. A. Wetmore, 204 Montgomery St.,

City: MY DEAR WETMORE—I thank you for invitation to the Viticultural Convention at San Jose, for 27th, 28th and 29th inst., and, but for a previous engagement to Yosemite, should certainly accept. For many years it has been apparent that the wine interest of California was to be its paramount one, and if (as you suggest) it be true that my legislative action has in any degree aided to bring forward the magnificent "blossoming" now visible to the *fluid* men, I am glad. Wine and viticulture rise above the ordinary mercenary level of "money grubbing" into the intellectual and spiritual region of poetry. What more could a progressive civilization ask, than an employment that should elevate and refine, while enriching? I am very truly yours,
1114 Clay St., S. F. Wm. B. MAY.

Mr. Wetmore referred to a discussion which took place at the last State Viticultural Convention as to the proper strength of wines. The practice in the northern parts of France is to have the grapes as ripe as possible. He has been accustomed to advise people here to allow their grapes to develop that degree of ripeness that would produce 11 or 12 per cent of alcohol. We have been urged in the interests of temperance to make wines of 6 or 7 per cent of spirit; but as a matter of fact, it is not always the amount of alcohol in a wine which measures its intoxicating power. He also quoted from Dr. Guyot, who gives an instance in France, where the use of wine did away with malarial diseases, with which the inhabitants had been afflicted previous to the introduction of the culture of the vine in that district.

Mr. Pohndorff stated that our wines are not stronger than those of Spain and the South of France.

Mr. F. W. Morse was called upon to state the results of his last examination of vineyards in the district attacked by the phylloxera. He reported that he found the infected spots enlarging, and two of the vineyards are nearly gone, and new vineyards in the immediate vicinity of the infected ones, becoming affected. Otherwise, he had found no noticeable infection in any of the other vineyards not already reported as attacked. Thus far he was not able to report any results from the experiments with Bauer's quicksilver remedy.

Mr. Wetmore thought that the infected vineyard in San Jose ought to be exterminated, and advised the vinegrowers in the vicinity to combine and treat with the owner to that end.

THIRD DAY.

MORNING SESSION.

The morning and a portion of the afternoon were devoted to a further examination of the exhibits, and as there was not sufficient time to test them all, a large number of the specimens were turned over by the President to the Santa Clara Viticultural Club, for further examination by its members.

AFTERNOON SESSION.

J. W. Kottinger of Pleasanton, being first called upon spoke as follows:

This morning we were engaged in sampling and testing the wines which have been brought here for that purpose, and, although we were at it a long time, I can't see but what we are all ready to take that part of the business up again right now. The fact is, no man can get drunk on pure wine, no matter how much he drinks. But, in all our discussions and lectures, there has been one thing overlooked, or passed by, and that is the subject of "blending," which I hope will be thoroughly discussed before the convention closes. I am a wine-maker, but not a "big one," for I have only two acres in vines, but I always make wine and take great interest in the industry. I am a pioneer of Livermore and the pioneer vine-grower of that section. I first planted vines in Livermore Valley in 1856. As to blending I have not had much experience, but I think that what will do for one vineyard will not do for another, unless all conditions are the same. I think that the chemical contents of the grapes, which differ in the several localities, will control this matter in spite of all theory or practice; I do not think any fixed law for blending

can be established. I have read and studied excellent works by both German and French authors, but find that locality makes all differences; hence, I draw the former conclusion. I would rather have wine made by a practical wine maker than by a chemist. For instance, see what we tasted to-day, and you can easily see the difference. Give me Pfeffer's wines and I will drink them and want more; but don't give me the wine made at the laboratory of the University, for I would spit it out, as most of us did to-day. I don't want wine made by chemists. To make our industry a success, we must educate people to drink wine—light wine—and they will gladly do away with whisky and other alcoholic liquors. Light wines are better, at lunch or dinner, than tea or coffee; and when we can get the people to see this fact, then we can see success ahead of us. We have to contend against a fanatical party, which has now assumed the position of a political party, whose members and advocates have set their minds against wine, together with alcoholic liquors. We must dissipate this prejudice—and how? By producing good wine and encouraging its use in lieu of other beverages. This is the only way, for, in my experience with so-called California wines, I have found more adulterated than pure. We must use all our influence and perseverance to have laws passed and executed against the adulteration of wines. It is the duty of the Government to do this, and we must work individually, as well as a body, to this end; we must have our people stand together and then we will have good wine. The monopoly of the wine trade is beginning, and unless the wine producer has capital enough to enable him to hold his wine, he is at the mercy of these monopolists. The merchants in San Francisco have the money and the power. And the only way the producer with little or no capital can see his way clear is through the organization of cellar associations. He closed by reciting a tribute of praise to wine, by Byron, and translating a Latin couplet, handed him by Mr. Wetmore, and written by the Dean of Oxford in 1869.

The couplet as handed in also had a translation attached, and is as follows:

A LATIN COUPLET.

"Si bene commendat cause sunt quinque bibendi, Hospitis adventus, presens sitis atque futura, Aut vini bonitas, aut qualibet altera causa."

"If I the reasons well divine, There are just five for drinking wine— Good wine, a friend, or being dry, Or lest you should be by and by, Or—any other reason why."

Said to be written by Henry Aldrich, Dean of Christ Church, Oxford, A. D. 1689-1711.—Notes and queries.

Mr. Wetmore said that divines had always been the best authorities as to the quality of wine, and, as a matter of fact, the church first introduced grape culture and wine making in this State.

Wm. Palmtag condemned the practice of adulterating wine, and instanced the severe laws of Germany against selling adulterated wines unless labelled as such.

Mr. Wetmore stated that one of the great struggles before us is with adulterations, and the Commission is now directing its efforts towards proper legislation. At present a commercial brand is no guarantee of the quality of goods in this country on account of adulterations and imitations.

As to chemistry in wine making he quoted from Dr. Guyot as follows:

EXTRACT FROM CULTURE DE LA VIGNE—A VINIFICATION.

[Par Jules Guyot.]

"In my opinion there is no more useful book for any one engaged in viticultural pursuits than *'Le traité de chimie appliquée a la viticulture et à l'œnologie.'* (A treatise upon chemistry applied to viticulture and œnology) by Mr. Ladrey, professor to the Faculty of sciences at Dijon (France); Mr. Maumené, professor of chemistry at Reims, has also published a very valuable work upon the preparation of wine. The accomplished chemists Barral, Bequerel, Bous-singault, Bouchardat, Braconnot, Dumas, Gay-Lussac, Liebig, Jacob, Ludersdoff, Payen, Pelouze, Thenard, and others, with Chaptal at their head, have most powerfully contributed to throw light upon and sift what may be termed the question of wine: none there is who is more emphatically willing than I am to admit this, or

more earnestly desirous of having it widely known. But these services belong rather to the analysis, to the measurement and to a correct understanding of the elements and the constant phenomena of wine-making, than in the finding out of facts, of rules and methods calculated to modify, to supplant and, above all, to improve in every respect the wines of quality."

"In a similar manner—to borrow the illustration—the discovery of the sonorous vibrations, the counter relations of the numbers with the notes of the gamut, the ciphered laws of their concord by virtue of this proportion of numbers, have undoubtedly been most precious acquisitions and many conquests for science and art; but long time before this discovery the ear had divined the relation and the laws of sound, the rules of melody and of harmony were established, and to this day inspirations and genius—the genius of music, are still the only source from which the masterpieces spring. Science, it is true, has aided and helped to perfect the creation of the composer, but she is emphatically distinct from inspiration and the special qualities characterizing those productions.

"The composer of wine is the vine. Its spirit is its own and does not belong to chemistry. The yet mysterious relations existing between the vegetable and the animal kingdom must not be judged by the fathoms of metrical soundings; chemistry, the magnificent science which I love and have studied and practiced with a devoted amounting to passion, has not to this day found the key to these relations. Experience which not unfrequently is blighting and distressing to mankind, has proved that in proportion as vegetable or animal products assume, in the laboratory, more distinct and definite formulas approaching the estate of first principles—that in the same ratio they become unfit for animal alimentation. We are happily rid of chemical gelatine, may the Lord keep us from chemical wine."

He had nothing to say against the science of chemistry, but cautioned his hearers not to imagine that the chemist could make wine for them. Good wine was made long before chemists gave their attention to viticulture. They will either assist or destroy you—that is, they will assist you by giving scientific advice, by informing you of the chemical actions taking place during fermentation, etc., or can destroy you prospectively by making substitutes for wine chemically.

MR. J. B. J. PORTAL.

J. B. J. Portal.—What shall we do with our present and future crops of wine? The merchants say they don't want our new crop—they have enough. We will have a new crop in a short time, what shall we do with it? The merchant must dispose of the present poor wines in his cellar and replace it with good. He thinks that the overproduction of poor wines has already arrived. What we are commencing to produce is better than the wines of the past ten years. Of the 15,000,000 gallons of wine made last year, he thinks not 5,000,000 are fit to drink. He thinks there is an influence working against the small producer to prevent him putting his own wine on the market. Cellars must be built, but it is not every capitalist that will succeed in the business. Success in this as well as in any other business requires personal attention. There is capacity enough in Santa Clara county, with the cellars already constructed and those projected, for the coming crop. He advised growers not to be discouraged because they cannot get a price put upon their grapes now. There is plenty of time, and offers will be better than you now think. Capitalists will come here when we have sufficient grapes to crush. On the whole there is no reason why we shall not get a fair price.

There are plenty of grape growers, who through the prejudice on the part of the ladies of the family, have no wine at home. The result is that they take their glass of whisky somewhere else. He considers that a certain amount of stimulant is necessary to all animals. Wine furnishes the necessary stimulant to man along with nourishment. We must encourage wine drinking at home by members of the family and the workmen. He has cured men working for him of whisky drinking by furnishing them daily

with wine to drink. Wherever we go, when asking for wine, let us ask for California wine, and not for foreign wine. If the producer sells his wine under his own name, he will prevent adulteration by the middleman; and there should be local wine companies in each locality who will have the local interest sufficiently at heart to prevent adulteration.

On behalf of Mr. John Anzerais he asked that a visit be made to that gentleman's vineyard, to see what, if any, effect the phylloxera had caused, as Mr. Anzerais insisted that the insect had done no injury.

Mr. Wetmore said that it was nonsense to claim that there was no phylloxera there, and Mr. Morse would accompany any Committee appointed for the purpose and show them more phylloxera than they ever saw.

Mr. Anzerais stated that he thought there was no phylloxera in his vineyard because it is still productive.

On motion the Chair appointed the following Committee to visit the vineyard in company with Mr. Morse, and to report to the Convention: D. C. Feeley, J. B. J. Portal, Dr. J. A. Stewart, Pédre de Saisset and A. P. Henning.

DR. J. BERNARD.

The discussion being resumed, Dr. J. Bernard of Livermore said that all he knew about wine making had been learned from the different conventions. The great cry is overproduction, and what to do with the wine on hand and that from the coming crop. There is not enough of wine drunk here, and it is because it is put on the market too young, and much of it is bad. He is a wine drinker himself, and often drinks tea and coffee because he can not get wine that is old enough to drink. He has paid 75 cents a gallon for wine in San Francisco, which was so poor that it was impossible to drink it without adding a large amount of water. Much of the wine left over last year is so poor that it must go to the still. The wine sold in some of the saloons would make a man shudder to drink it. He advised every man to make his own wine, as there is no science in winemaking, and good wine can be made by the small growers.

To find a market for our wines, it has been said that we must ship it to Europe. First, let us create a home market in the United States by offering good wine. It is said that Americans don't drink wine. Thirty years ago they didn't drink beer. At first they said it was too bitter, as they say now wine is too sour. But now there is an immense amount of beer drunk in the United States. Offer a good, sound, wholesome wine at a reasonable price, and cultivate in America a taste for wine.

MR. L. D. COMBE.

L. D. Combe believed that the vineyardist should make his own wine. He was born in Italy where the grower makes his own grapes into wine, and the intelligence among growers here is higher than it is there. If a man has a small vineyard, he should make some for the purpose of experience, even if he sold the rest of his grapes. And he counselled vinticulturists to frequently meet together for discussion for the purpose of having uniformity in practice.

MR. J. H. WHEELER.

J. H. Wheeler believed that the wine growers would be forced to make their own wine, on account of the overproduction of grapes and the lack of wine makers to buy them. Overproduction will cause a lowering of prices, but this will cause the opening of new markets, and then our surplus wine will sell. If we could stop adulteration we could provide a market for one-half of the five million gallons surplus. A portion may be sent to Europe, but we must use our moral influence in favor of drinking wine at home instead of other things which fill its place. Although he had lived in a wine producing county, and did not doubt that men had been drunk on wine, he had never seen one. He did not believe that the wine maker could sell his wine without the intervention of a middle man, the wine merchant, and summed up the remedies for overproduction as follows:

- 1st. Cut off adulteration and thereby increase the sale of genuine wine.
- 2nd. Establish markets abroad by offering cheaper and better wines.
- 3d. Use our moral influence in every way to cause the people to drink wine.

Mr. Wetmore exhibited a specimen of mannite which is sometimes produced in wine by mannitic fermentation, and the Convention adjourned to enable the Committee to devote the remainder of the day to the further examination of the wine exhibits.

EVENING SESSION.

The Committee appointed to examine and report on the phylloxera in the Anzerais vineyard reported as follows:

COMMITTEE REPORT ON PHYLLOXERA.

Mr. President: We, a Committee appointed this afternoon to visit the Anzerais vineyard do report as follows: Mr. Morse took us in all directions in the vineyard, and dug into the ground at the points designated by the Committee and found phylloxera adhering to the roots and stocks of the vines in every instance, even on the young and vigorous ones grafted last year and this year. Although the vines are apparently in good health, the phylloxera is now existing on the old trunks and roots of the scions. We easily discovered half a dozen infected spots by the appearance of the leaves which were slightly yellowish and of short growth. The vines apparently not attacked are strong and vigorous and loaded with fruit. As the facilities for irrigation found in the vineyard are good, your Committee thinks that the spreading of phylloxera could be checked at a comparatively small cost.

On motion the report was received and accepted, and the Committee discharged.

Mr. Anzerais being present expressed himself entirely satisfied with the report of the Committee.

MR. D. C. FEELEY.

D. C. Feeley said that he was chiefly interested in growing grapes for market but is obliged to make some wine. He is located in the Santa Cruz Mountains where he commenced planting vines by paying \$10 per thousand for cuttings, and subsequently found that he had the wrong varieties and was obliged to graft.

As to what to do with the grape crop, every grower should make his crop into wine, and he should be willing to learn from every available source the best methods of making and blending. If you can't make your own wine you are at the mercy of the wine maker who buys grapes. Or you may unite in putting up wine cellars. Co-operative cheese factories are a success, and perhaps co-operation among wine makers may succeed. I want every wine maker put in a position independent of any ring of merchants. I would like to see the wines of the valley seek a market not through San Francisco merchants. As to table grapes, he said:

"With the reduction of 25 per cent in the rate of freight to the East, which has been procured from the railroad company, the shipments can be largely increased." An Eastern grower, who raises grapes on the Hudson for the New York market, asked him what grapes could be produced for in California. He told him that they could be put on board the cars for five cents a pound or \$100 per ton. The Eastern grower said, "if you can sell your grapes here for 10 or 15 cents per pound you will drive us out of the market." It has heretofore cost for freight alone 50 per cent of the price received for the grapes in the East. With the reduced rate of freight we can safely plant largely of table varieties. If we can sell grapes at a price to reach the middle classes in the East, the trade can be increased 200 per cent. Eight tons net are put in a car in baskets holding five pounds each, packed in crates. The tare amounts to two tons, Flame Tokay, Larga Bloom, Verdal, Muscat and a few Cornichon may be safely planted in his district, but the Emperor and Purple Damascus are not suitable to the climate, Rose of Peru and Malvasier are sold chiefly in the San Francisco market, though a few are sent as far as Denver. If baskets and crates are furnished, grapes at \$50 a ton would pay well. The packages cost about 30 cents for 40 pounds of fruit. He would be willing to put them on the cars at San Jose for \$60 a ton and furnish the packages.

MR. E. B. SMITH.

E. B. Smith of Martinez, said that he had been buying grapes and making wine, but he had come to the conclusion that the man who grows the grapes can make the best wine, as he can take better care of the

grapes, and follow more careful methods of making. He does not think the San Francisco merchants are doing the best thing they can for wine makers. They are only waiting to buy as cheaply as they can. Any one can learn to make wine in one or two seasons. And if no better place can be had, wine may be made in a shed, though he does not approve of so doing. There is no secret in the business, and all wine makers are willing to impart information. This year he holds his wine. The San Francisco merchants would make him no offer, classing him among those who are obliged to sell. They know that our new wine can not now be sold in the East. He advises all to make their grapes into wine and hold it till it is at least one year old. If he can not sell his wine here he will go East and try to sell it there. He believes that there is a market for all our wine, and that Eastern people would prefer to buy from first hands. He agrees with Mr. Wetmore that we should insist on having California wine to drink at a fair rate. The San Francisco restaurants are furnishing fair wine at reasonable prices, but the hotel keepers and saloon keepers are asking too much.

MR. E. H. BIXFORD.

Mr. E. H. Bixford spoke as follows: There seems to be a good deal of friction between the growers and the San Francisco wine merchant. He is in no way interested in the wine trade except as a grower, but he has very grave doubts whether the grower can go to the Eastern States and find a market for his wines. Selling wine is like selling anything else, and but few producers will be found who can do so. To build up a trade, drummers are sent out and many other means resorted to which require capital; and how many of the average grape growers can do this who are not also merchants. He believed in fair dealing in all cases, but he did not blame the San Francisco merchant for buying his wine at the lowest price, and he would do the same. The San Francisco merchants who have been in the business 20, 15 or 10 years, through their capital and efforts, have built up a trade, and have the facilities for selling that no grower has who is not a merchant. Some wine makers with a large capital at their back, and who can wait till they built up a trade, may establish agencies in Eastern cities.

One gentleman now on the floor told the speaker that his company were about to establish a house in Boston. But they have plenty of capital, and can wait for their customers, and will succeed where the small producer without capital would fail.

MR. L. D. COMBE.

L. D. Combe said that at present we cannot get along without the San Francisco merchant, but that we may relieve him of the necessity of storing so much wine by building co-operative cellars and storing it in the localities where made, under the charge of competent cellarmen. In case of necessity money could be raised on the wine in warehouse, and the maker would not be obliged to force his wine upon the market. And, in this way also the grower would be relieved of the necessity of building cellars themselves.

MR. FEELEY.

Mr. Feeley.—Unless we have good wine the merchants will not buy. Therefore the first thing is to learn proper methods. If the wine is good, it will sell when carried where they use it. He believed in doing away with the middleman in all cases.

MR. J. H. WHEELER.

J. H. Wheeler said that he gave the San Francisco merchant credit for putting his money in the business. Let a man go East and try to sell his wine and come back "broke." He will then be glad to send his wine to San Francisco and "take down" his money. He knew men in Napa valley who have made money buying grapes and making wine, but he knew many who have bought grapes and made wine who have not made money. He does not believe in decrying the San Francisco merchants. If we can sell our wine in any other way than through them, well and good, but he concurred with Mr. Bixford that it was not practicable.

CAPT. CHAMON DE ST. HUBERT.

Captain J. Chamon de St. Hubert again addressed the Convention as follows:

I have not the intention to address you as many have done for the last three days, in saying that I have no experience and that I know nothing upon the subject before the Convention, but on the contrary I will tell you that I know well the subject I will develop before you by a long experience in vine culture, wine making, and wine selling, and also the first wants existing between the vinticulturist and the merchant. I am entirely, I must begin by saying, on the side of the vinticulturist, but this is not a reason for me to be against the wine merchants, who have done so much to introduce the wine of California.

We are and we have been speaking of selling our wines, but where is that wine? Have we got any to sell in quantities worth mentioning? Lately I have been asking a great many vine growers for 500 gallons of fine red wine and I am sorry to say that I have been unable to find any, all saying, I have sold mine. Therefore we must not be afraid of overproduction as long as we hear that such an answer is given us. But though, what has been sold—1884 crop—how could you, vine growers, speak of creating immediately a market? In order to create a market you must have wine of a certain age and give only to the consumer wines from 3 and 4 years old and over that.

The restaurant must be compelled to sell and offer to their customers California wine, of which they are, or ought to be, proud and which gives them as remunerative a profit as all or any other brand of foreign brands or imitations. These wines must be labelled and the label call for the name of the vineyard and proprietor, and also that of the merchant who has contracted for many years with the vineyard's proprietor. You must individually insist upon having wine brought to you having a California brand on them and refuse what is brought to you and not called for. Would you accept a stewed rabbit if you had ordered roast chicken? Do the same for the wine.

Allow me to tell you a little story that occurred and caused the introduction of Burgundy wine into London. A French gentleman was at a restaurant on Regent street and called for a bottle of Burgundy; the waiter told him that that wine was not known and that nobody ever called for it. The Frenchman insisted on having a bottle nevertheless, as he had had one at another restaurant near by and he would be obliged to go there if the waiter failed to provide him with the required brand. The result was, that the waiter was sent for a bottle of that wine. Meanwhile the Frenchman spoke highly of the Burgundy to the proprietor of the restaurant and gave him the address of a firm which he knew kept the real Burgundy, and from this date that restaurant added the Burgundy to its wine list and now finds a ready and large sale for it. It is useless to tell you that this French gentleman was an agent employed for the introduction of Burgundy wine.

On the question agitated just now among the wine growers, that of building large cellars in a co-operative way, in order to shelter and keep their wines, and if needed, obtain advances thereon, I must say I cannot altogether encourage and endorse that mode, because young wines require, each according to its nature, a different care, for some are made for blending purposes and must be used, only at proper time. Therefore some wines would suffer and the vineyard would lose its reputation or never gain it, if it had not yet acquired it—on the merit of the peculiar locality in which such wines could be produced. A cellar in which wines of different owners are to be stored must be subjected to one single rule and not to as many as each wine grower would give. Therefore, to be worked with profit, wines thus deposited would be of a certain age, and we all know, that wine has no age before it is three or four years old. Before that age it is subject to so many changes that it would be folly for any one to advance money on it. But all these defects and changes would keep us speaking too long, and should make a theme for a separate discourse. I only mentioned it here to give strength to my objection to cellaring wines which are too young. Winegrowers! keep away from the theories which have not yet been practically demonstrated; do not lavish your money uselessly, and without certainty of sure returns, but remember that each wine grower must have a cellar, in proportion to

his needs, that you have to make a name for your wines, or your vineyard, before your production is called for by the consumer. You can only work progressively in order to work surely. You cannot afford to work two years with one; therefore, build a cellar, a small one with your ready money, in a selected and sheltered spot on your vineyard, far enough from all roads, and principally from all railroads, to avoid trepidation. Build it underground if you can, principally if you grow vines of fine qualities and species. Then enlarge that cellar each year just as the crops come in. The first year, separate seven or eight tons of each species of grapes and make wine by following all the rules for good fermentation, then keep these wines to be used afterwards as types; sell all the rest, either the grapes or the wine made therefrom. Do not yet be too exacting as to price, but put your ready cash in your pocket. Each year for four or five years do the same, taking good care to have your wines tasted by the party buying your grapes or your wines; then you will know the value of your own vineyard. The wine dealer will come to you and contract for a series of years, because, if that wine is good, it helps to build up his trade, and he will perforce divide with you, he will then advertise and introduce your wine in its genuine pure state; he will also be guaranteed for a number of years, and you will have for a guarantee that he makes money out of it, and consequently you will also. These contracts are made with all the best vineyardists of Europe where there is one of any worth. It gives the wine grower a ready capital to enlarge his vineyard, and to ameliorate his cellarage, etc.

Many wine growers are entertaining the idea of going East and there dispose of their wine, but what difference would you or could you make between selling at home at 30 cents or at 50 cents abroad, if the 20 cents difference be paid to the railroad? Then, are you sure to sell? Are you sure to be paid? Have you the time to remain there to collect? Reflect before acting thus—that when you sell at home you receive your money cash on delivery without any leakage or loss of time. It is easy to sell—very easy—but to collect is not always "Couleur de Rose" and it is worth thinking twice over before acting.

All these ideas do not exactly emanate from my brain. I take as a model with great modification the manner of dealing in France. There are in France "Entrepôts" in nearly all the large towns. The huge warehouses are established by the State as "Octroi." Wine is sent there in bond for a short period of time and the dealer comes and takes it just as he needs it, but you seldom see in these warehouses wines belonging to vineyard proprietors. They are deposited there and are generally bought at wholesale from the vineyard proprietor by the dealers and taken out afterwards by the retailers to be distributed to their customers after having paid the dues.

In California such dues do not exist, therefore we have not to follow the same mode; hence it is useless to speak at length of such establishments, but it follows from this that the merchants or dealers here are in close contact with the proprietors of vineyards and the dealer is obliged to have large cellars built for storing the wine. Let us therefore have the wine merchant buy the wine and the vine grower raise the grapes and make the best wine he can out of them, leaving the proper preservation and care of the same to the dealer who is to distribute it to the trade according to the wants and taste of the people, also to distill it, if it be of superior quality.

It is with the vine and wine as it is with the furmer and baker. The farmer cultivates the wheat and sells it as wheat. The merchant buys it and turns it into flour and the baker sells the flour in the form of bread. Let us each have our own trade and each trade will flourish.

MR. WETMORE.

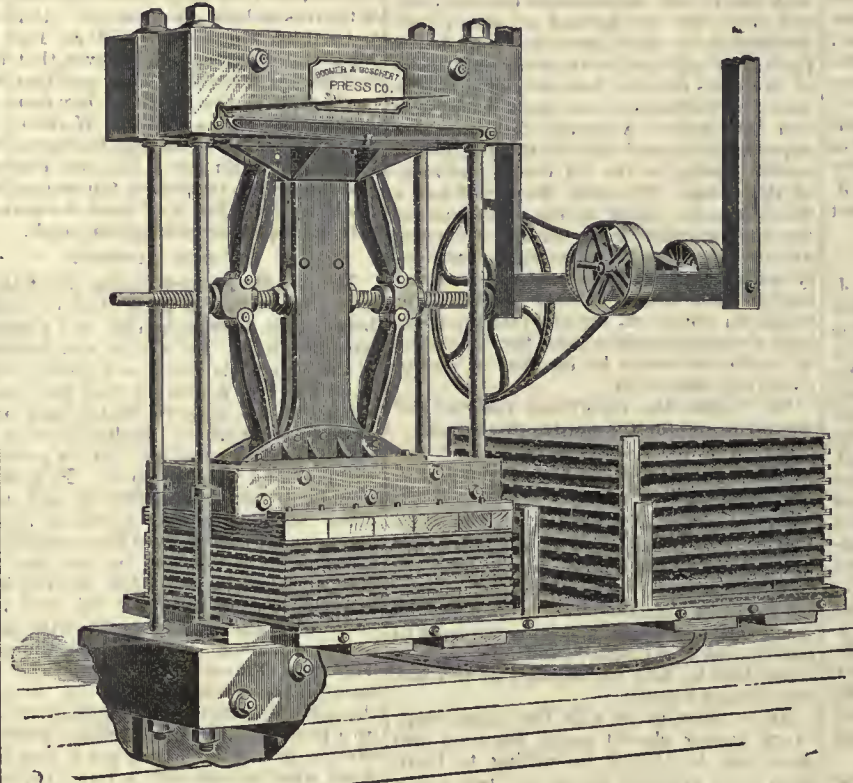
Mr. Wetmore said that the question is not so much who shall sell your wines, as who shall buy them. The merchant finds the buyers, takes the risk of trade, and pays a price accordingly. A man can not afford to go East to sell a small lot of wine. Put your wine in a condition to be shipped anywhere. The commission wants houses established in every important town in the East for selling our wine. At present there

are but few places in the East where wine can be properly stored. As to selling wine in the East, he knows a man in Napa Valley who had drummers there trying to sell his wine, but, notwithstanding, he was obliged to sell at a sacrifice, because he needed money. Cheap wine will open up the market, and, as soon as a demand is created, prices will go up accordingly. He believed that the more merchants we have, the greater will be the competition. We must have the machinery to put our wine in

the hands of the consumer. Inside of three years we are going to have 40,000,000 gallons of wine per annum. Get the Eastern merchants full of the idea that you have pure wine of age to sell, and they will come for it; but first the cellar must be made to receive it.

In closing, he complimented his hearers on the success of the convention, and hoped soon to meet them again under similar circumstances, and declared the convention adjourned *sine die*.

The Boomer & Boschert Wine Press.



It would be a question for debate whether the marvelous development of our varied agricultural interests stimulated invention, or invention was the stimulus to the rapidly enhanced production; certain it is that the genius of the inventor has so changed the relation between labor and capital as to necessitate a re-arrangement in the equilibrium of their relations. The farmer with the modern implements now at his command can, with five men, do the work that would formerly have taken fifty, and the same is true in nearly every branch of industry.

While we cannot claim an exclusive title to the achievements that have so revolutionized business, we are justified in feeling a self-satisfied pride in what we have done, and are doing, in bringing the world to the millenium, when man shall not live by the sweat of his brow, but by the play of his genius upon the imponderable elements of nature—Light, Heat and Electricity.

No better illustration, nor one in which the agricultural interests of this State is more interested, could be given than the application of machinery to the wine industry, as shown in the above cut of a press manufactured by the BOOMER & BOSCHERT PRESS CO., of Syracuse, N. Y.

They are in use by several of the largest Eastern manufacturers, but the method of pressing through cloth is a comparatively new feature. As will be observed in the cut, the crushed grapes are laid up in layers surrounded by cloth, and between the layers wooden racks are interposed, forming channels for the easy exit of the juice.

The cloth in which the layers are enclosed is made of cotton, very heavy and strong, and the must as it is expressed, comes clear and free from seeds, making it much easier of after manipulation. While the cheese on one end of the platform is being pressed, another is being prepared on the opposite end, and thus the press is in constant operation.

If preferred, curbs can be used, the filling or picking over of one being done while the other is under the press.

Their catalogue of 76 pages contains illustrations of other styles of presses and platforms, and is mailed free to all interested.

As they make several sizes to operate either by power or hand, it would seem that the proprietors of wineries in this State, would do well to investigate the merits claimed, as anything tending to decrease the cost of production must necessarily increase the profits and wealth of the users, and in this age of advancement, none but those who are quick to avail themselves of every improvement can hope to succeed.

J. N. KNOWLES, MANAGER.

EDWIN L. GRIFFITH, SECRETARY.

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THE JOINT APPROPRIATION.

Hon. J. Routier, State Senator from Sacramento County, a member of the Senate Committee on Viticulture, and a prominent vine grower and wine maker, has written to the Viticultural Commission concerning the joint appropriation substantially in the same words as the Speaker of the Assembly and others, whose letters were published in our last issue, as follows:

ROUTIERS, June 19, 1885.

Chas. A. Wetmore, Esq., State Viticultural Commission: DEAR SIR:—I have paid great attention to your correspondence with Dr. J. H. C. Bonte, Secretary of the Board of Regents of the University of California. As a member of the Viticultural Committee of the Senate, I have to take side with you in your interpretation of the views of the Senate, at the time the appropriation was passed; I am as much in favor of science as any man you can name, but I believe also in the practical experience of our wine makers; and the experiential wine cellar ought to be located where it will do the most good, and San Francisco without any doubt is the right location. Wine making is one thing and chemical analysis is another. Let us give to Caesar what belongs to him, but no more. The ordinary wine maker will not go to Berkeley to ask the learned professors for information; it would require a special trip there and it would very likely require a formal introduction; then certain hours would be devoted to their business, and in fact everything would and ought to be regulated as a school. This is not what our hard working wine makers want. They want a place open to them in San Francisco where they can go every time their business calls them there and ask for any information they like to have. I will add here that at the time of voting the credit an effort was made to locate an experiential wine cellar at Berkeley, and that every practical man was opposed to it, in fact the credit could not have been passed in that shape. I remain

Respectfully yours,
J. ROUTIER.

OLIVES. OLIVES.

I wish either to go in with some one, or to form a Company to plant olives extensively. I have many thousands and fine two-year-old trees.

W. A. HAYNE, Jr.,
Santa Barbara, Cal.

W. E. CHAMBERLAIN, JR. T. A. ROBINSO

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A MEMOIR ON OLIVE GROWING

WITH ILLUSTRATIONS.

Read Before the State Horticultural Society, February 29, 1884, by

FRED. POHNDORFF.

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FRIDAY.....JULY 3, 1885

DOWN WITH THE GRASSHOPPERS.

Mr. Geo. West of the Viticultural Commission, has been experimenting on the vineyards of Kohler, West & Minturn, at Minturn, Fresno county, with a remedy suggested through the Executive Officer against grasshoppers, consisting of using arsenic with bran, middlings and syrup. Mr. West finds the best results by using ingredients in the following proportions: Forty pounds bran; 15 pounds middlings; 2 gallons cheap syrup; 20 pounds arsenic, mixed soft with water; a tablespoonful thrown by the side of each vine or tree; cost per acre for trees, 25 cents; for vines, 50 cents. He reports complete success; that the hoppers eat greedily and die in their tracks.

GOOD NEWS FOR WINEMAKERS.

From reliable information received, we learn that the cold weather has blighted the berries as they were forming, causing them to drop from the vines. Even the Mataros, which usually resist couleure, are in some places almost a total loss. Reports to this effect are pretty general from all parts of the State. The vintage for this season, which was estimated at 20,000,000 gallons, will not aggregate as much as that of last year. The consequence is that there will not be such an enormous demand for storage and cellar room as was anticipated, and the winemakers generally will find themselves in a much better condition, as regards marketing their products, than could reasonably have been expected.

THE WORK IN THE EAST.

Mr. Wetmore has been compelled by circumstances to postpone his departure for the East until almost the 20th inst. The Governor has already provided for his use in Washington, certified copies of joint resolutions relating to viticultural products, passed by the last Legislature; also an official letter of introduction to the President.

DR. BAUER'S REMEDY.

The Chief Executive Viticultural Officer has given to the public a letter in which he reports that recent examinations of experiments made with Dr. Bauer's mercurial mixture upon phylloxerated vines indicate that the proposed remedy will prove a failure.

CHARLES KRUG.

The business failure of Mr. Chas. Krug of St. Helena, is to be regretted by all viticulturists. He has been the soul of progress at St. Helena, and has contributed unselfishly to the general cause of viticulture throughout the State. It is easy enough to say that his difficulties were caused by excessive zeal in promoting the industry in which he was engaged for the general public good, forgetting his private interests; such is the history of many men, who furnish the steam of progressive movements. It is just as easy to say that if the property holders near and in St. Helena should contribute a small percentage of the benefits they have derived from the extra-activity of Mr. Krug, his debts would all be paid. It is more practical to say that no one expects that this failure will cause Mr. Krug more than temporary embarrassment, as we also know it will not deprive the State of his valuable public services.

THE LOUISVILLE EXPOSITION.

Exhibits of Viticultural Products—Committee Appointed.

The letter from Mr. C. B. Turrill, published in this issue, having been submitted to the officers of the State Viticultural Commission, the following action has been taken:

The Commission has requested the following named gentlemen to act as a special committee to co-operate with Mr. Turrill in collecting and forwarding suitable samples of wines, brandies, raisins and fresh grapes to the Louisville Exposition, viz: I. Landsberger of San Francisco, Hon. M. M. Estee of Napa, Capt. J. Chamon de St. Hubert of San Jose, E. W. Maslin of Sacramento and F. T. Eisen of Fresno. This committee is selected specially with reference to practicability of securing at least a quorum attendance at meetings, as well as to cover the large sections of country in the central and northern counties. In order that efficient work may be done in Southern California, the following gentlemen have been requested to co-operate with the main committee, with respect to samples of wines and brandies, viz: Hon. R. F. Del Valle, Los Angeles; Hon. J. F. Crank, Pasadena; and R. J. Northam, Anaheim.

The following named gentlemen will be requested to assist the Committee in securing proper samples of raisins, illustrative of their different sections, viz: Robert McPherson, Orange, Los Angeles Co.; Col. L. M. Holt, Riverside, San Bernardino Co.; Geo. A. Cowles, El Cajon, San Diego Co.; T. C. White, Fresno; D. A. Jackson, Woodland, Yolo Co.; Hon. J. A. Filcher, Auburn, (for the foothills.)

The Committee will be requested to select suitable persons to assist in forwarding samples of fresh grapes.

The Commission will provide the Committee with a secretary to attend to correspondence, and have engaged the services of Mr. Charles R. Buckland, of the S. F. MERCHANT, for that purpose, subject to their approval, so that there may be no reason for delay in the work.

The main committee will be requested to meet at the office of the Commission in San Francisco, Monday, July 6th, at 1 p. m. Senator Del Valle will probably call his committee together in Los Angeles, as soon as the committee first named has obtained sufficient information from Mr. Turrill, to define the work to be done.

The Louisville Exposition, will open the latter part of August.

THE LETTER FROM MR. C. B. TURRILL.

CHAS. R. BUCKLAND, ESQ., EDITOR S. F. MERCHANT: Dear Sir—Permit me to thank you for the kindly words regarding myself which appear in your issue of May 22d. I am glad that it has been my privilege to bear a hand in the work of advertising the resources of California, and it gives me pleasure to feel that there are many who are earnestly engaged in the good work and upon whom I can call for assistance. My time must be greatly occupied outside the State for some time to come. By reading the local papers, of which I receive a large number, I can be pretty well informed as events transpire. My work must now be that of a missionary, and I shall do all I can to perform that work faithfully, earnestly, and to the best of my ability. The fact must not be lost sight of that it is through the public spirit of the Railroad Company that this work is to be carried on. We now have a very valuable and interesting collective exhibit. Much of this has been gathered hastily and there are many gaps that need filling in, while there is need of enlarging the various branches of the exhibit as it now stands. This is the work that I have laid out for this summer. To do this we require additions of many kinds. In fact, there is nothing which cannot be used with advantage in such a collection.

A careful study of the subject induces me to adhere to my previous plan of arranging the exhibits by counties, and then grouping these geographically. Thus the visitor forms a pretty correct idea of the resources and advantages of each section. And when he passes from one county collection to another and sees the same products displayed in so many of these geographical divisions, he is amazed at the fact that so many things are produced nearly all over the State.

Besides this general arrangement, I want to have sufficient of the exhibits to make general class displays. For instance, I want to get up a general viticultural and vinicultural display, which will clearly show the extent and diversity of this branch of our State's productive possibilities. I shall be glad to have all the charts, pictures, maps, etc., that I can get, which will throw light on these matters. Photographs of vineyard scenes, wine cellars, grapes, etc., are the interesting pictorial part of such a display. There should also be samples of soil from different vineyards. Vines of different ages, showing the branch and root growth. These should illustrate the growth of different varieties as well as the fertility of the soil. There should be pressed specimens of the foliage. The vines will have to be dried, and as the leaves will have to be removed, they will simply show the canes and the roots. The foliage must be pressed. Then we need specimens of the different varieties preserved in solution. I have a large collection of such now. These are in a preservative solution of my own, and keep admirably, retaining bloom as well as color, form and size. I put one bunch in a jar; after the solution has permeated the berries there is no fear but what all will keep well.

So much for this part of the subject. Now I feel that it is important that I should have in this special display as full an assortment as possible of wines and brandies of different varieties, vintages, and from as great a number of localities as they can be procured. Two or three bottles of each would be ample for this. I would urge that for this part of the display, if no other, the bottles should be clear, so as to show the color of the product contained. I think it would be well to have these bottles accompanied by concise statement of the grapes from which made and also by an analysis. There are other points which will suggest themselves.

It should not be forgotten that any products made from the grapes, or wine should be shown. I think a firm in Los Angeles is manufacturing Cream Tartar, as such, a secondary product. This should be exhibited.

A register showing who has vines for sale and what varieties, with the prices and peculiarities of each concisely stated should be furnished. I have had numerous calls for this information from those here who want to experiment with our vines.

Full price lists of wines should be furnished. Many want this information.

There should be a reasonable supply of important wines that may be tasted by those who will be specially interested in our viticulture. This can be so conducted as to do great good. It is not necessary nor advisable to treat every man that comes along, but a little experience demonstrates who are the parties who will be the ones to assist in making a market for our wines.

Now let me suggest that it is important that all these vine products be put up in attractive shape. One large display of wines that came to me for the Exposition that has just closed, would have made a better appearance had the bottles been better. Some apparently were ordinary beer bottles, and the height was not the same. This was unfortunate, and was the cause of much adverse criticism. Care should be taken in capping, and especially in labeling. In the collection above referred to some of the bottles had been put into the sheaths before the labels had dried, and they were rumpled up past recovery. Too much care and attention cannot be paid to all these little details. Remember there are thousands to notice them, and much depends upon attractiveness. Then there is another point; there is a constantly present tendency to compare our wines with the French, not alone in quality but in the style of bottling, labeling, etc. We must put our best foot forward in all particulars. Many here have objected that in our wines the bottles are not full, that is to say, there is anywhere from half an inch to nearly two inches between the top of the wine and the bottom of the cork. Wine dealers urge me to impress upon our makers the importance of filling the bottles fuller, and making the capsule come down just below the top of the wine. I make these statements so you can throw them out as suggestions to your readers. Remember that our wines will be criticised. It is well to avoid grounds of complaint when possible.

I have not mentioned the raisin industry. This is very important. And all that has been said regarding neatness and care is applicable here. People are astonished at the beauty and quality of our raisins. I let them test them when I can. The taste thus cultivated for our products creates a local demand that must be supplied.

Every one here speaks of the superiority of our California products. This sampling creates the desire to purchase, and local dealers come to me for the addresses of those to whom they can write for goods and prices.

I think I have said enough on the subject. If you will kindly call attention through the S. F. MERCHANT to such points as seem to you important, you will be helping on the good work very materially. I shall be glad to personally explain these matters more fully as soon as I return to San Francisco, about the first proximo. And I shall feel under many obligations to you if you will kindly inform your readers that the work is only just begun. A series of exhibitions is contemplated and the Company asks the earnest, active co-operation of all. Let no one hesitate because he can contribute but little, for his mite will help to make the mass, and in that mass his individuality will not be lost. Each man gets full credit for what he does, and all have the satisfaction of doing something for California.

It is my intention to make this special wine, brandy, grape and raisin display referred to, in the form of an attractive structure. I am considering designs and forming my plans. These I intend to elaborate while homeward bound on the cars and I can explain more fully when I see you.

I forgot to say that it is important that I be supplied with a sufficient number of duplicate labels for all bottles, in order to replace the labels in the event of their becoming soiled or damaged.

Pardon the length of this letter. I did not intend to say so much, but as I hope you will begin to editorially call attention to these matters, no time should be lost. Please do all you can to assist the work and ask the MERCHANT's friends to do the same. Thus will much be accomplished in providing markets for the future of our vineyards.

Very respectfully,
 CHAS. B. TURRILL.
 New Orleans, June 17, 1885.

STATE OF CALIFORNIA.

Board of State Viticultural Commissioners.

SAN FRANCISCO, June 24, 1885.

To the Local Resident Viticultural Inspectors:

Your attention is specially called to the annexed letter of instructions addressed to Mr. F. W. Morse, who will communicate with you, seeking your assistance in his work. Where there are several Inspectors living near each other, it would be well if they would meet together and perfect plans for harmonious results and for energetic work. Accurate statistics, concerning acreage, ages and names of vines, classing all that are only cultivated experimentally, or for household use, as "miscellaneous," are very necessary at the present time, so that we may make no serious mistakes in calculations for the future care and marketing of our crops. Heretofore we have failed in procuring statistics; we hope that this effort will not fail, but that all interested will lend a willing hand, without waiting for personal interviews. Any reports sent to the Secretary of this Commission will be filed for the use of our special Inspector. The local newspapers would find an advantage to their readers if they would assist by publishing local reports, so that proper corrections may be made before final publication from this office.

We are desirous of obtaining the names and postoffice addresses of every vine grower in the State; but tables of statistics should avoid too much detail and may be made up for each locality, as though they were for one vineyard.

Local residents, inspectors, and local societies, should preserve records made now in such manner that the work may be continued another year without unnecessary waste of labor. Names and addresses should be changed when necessary.

CHAS. A. WETMORE,
Chief Executive Viticultural Officer.

SAN FRANCISCO, June 24, 1885.

F. W. Morse, Esq., Special Inspector.—
DEAR SIR: Enclosed you will find a copy of instructions concerning the collation of statistical information for this commission, which you are requested to execute as speedily as reasonable accuracy will permit.

If you will call upon local resident inspectors throughout the State, and others who may be competent, you may obtain valuable assistance. You should endeavor to secure, through such aids, as much as possible of the work accomplished in advance of your visits to different localities, so as to save time. All reports received by you should be verified, as rapidly as possible, to the best of your ability, and connected from time to time, as the work goes on. Yours respectfully,

CHAS. A. WETMORE,
Chief Executive Viticultural Officer.

MEMORANDUM OF INSTRUCTIONS AND ADVICE TO

F. W. MORSE, SPECIAL INSPECTOR,
To Guide him in Procuring Statistics.

What we want to know is the acreage of vineyards as follows:

1st. Total acreage by counties, and if possible by Districts, where they are easily defined.

2d. Age of vines, and names of varieties, showing relative proportion of each.

3d. When the vines are young estimate the number of vines growing where there are failures in the plantations.

4th. Approximate, for each District, the number of vines planted to the acre, without going into unnecessary details.

5th. General classification of the vines of each District with reference to producing capacity, giving general averages for each season, as nearly as possible, for each variety.

6th. Approximately, estimates of the vintages of 1884 and 1885, as nearly as can be obtained from local inquiry; classified with respect to production, as grapes for wines, grapes for raisins, grapes for table or shipping purposes; including tabulated statements of productions of wine and brandy; the relative proportions, if possible, of red and white, dry wines and sweet wines.

7th. For each locality, the average crops obtained from vines, three, four and five years old, considered as young vines, distinguished from old vines.

8th. General estimate of the yield of different varieties, according to location, from five years old and upwards.

9th. Where vines have produced largely when young, three or four years old, under the influence of heat and irrigation, obtain estimates of the comparative capacity of vines seven years old and upwards, under similar circumstances.

10th. General estimates, approximately, of the comparative yield of vines between five and ten years old, and those older of a given variety in a given District.

11th. Estimate, approximately, of percentage of losses in different Districts, covering a period of years, occasioned by culture, frost, mildew, sun scald, early Fall rains and insect pests.

12th. Local estimates, approximately, of area intended to be planted in vines.

13th. Approximately, by general observation and inquiry, the relative proportion of lands planted in vines as compared with other "cultures" under the same proprietorship.

14th. Approximately, for each locality, the area of vines subject to irrigation, and if irrigated to what extent.

15th. Approximately, by classification for each District or County, the area of vines under control of single individuals.

16th. Class of common labor employed for different operations of vineyard work, such as pruning, caring for the vines in Winter, gathering of the crop and disposing of it, and to what extent such labor is resident in the immediate vicinity of the vineyards, and what is the price paid for work.

17th. Ordinary time of maturity in each district for each prominent or leading well-known variety of vine; classifying maturity with reference to the object for which the fruit is to be used.

18th. General average, for each locality, of the duration of the vintage from the time of earliest maturity to the latest of the first crop.

19th. Names of varieties in practical cultivation in each locality which produce second crops, which are used by the vine growers, and a general estimate of the time when they ripen for practical uses.

20th. Saccharine degree of "musts" of prominent varieties in each district, possible to be obtained in ordinary average years, classified with reference to the different quality of the lands, if necessary making due allowance for the age of the vines, because a discrepancy might occur between the degree of "must" from young and old vines, ascertaining if possible, to what extent it may be true that young vines produce sweeter "must" than older vines, or vice versa, and note at the same time the average saccharine strength of "musts" as they are picked for practical work.

21st. Obtain, when practicable, by use of saccharometer the saccharine strength of Muscatel grapes when fully ripe in different localities, especially noticing what influence there may be upon such strength by use of irrigation, noting when you observe apparent difference of degree of sugar on lands irrigated and not irrigated, whether the water of irrigation remains near the surface or drains away; and noting also difference in saccharine contents of first and second crop of Muscatels.

22nd. Relative loss of weight of Muscatel in course of desiccation in different localities.

23d. Relative proportions of raisins made in each locality, from natural, sun-dried or artificial processes, making special note of first and second crops in this respect.

24th. Relative loss in culling grapes for raisins, drying or shipping purposes, and the usual methods of disposing of the culls and value of the same at the vineyard or place of disposition.

25th. As accurate statements, as possible, of shipments, whether by rail or steamboat or otherwise, from producing points, classified according to nature of products, together with a general but conservative estimate of local consumption aiming in this estimate to procure as nearly as possible, verification of the estimates of total crops of different kinds, making an effort also to procure as accurately as possible, estimates of stocks on hand, retained in the country.

20th. Cooperage and storage facilities, in each locality, for caring for the wine over one season; together, also, with an estimate of similar facilities for caring for the wine between the vintage and the following season; with notes of operations in progress for increasing such facilities and the extent of the same.

27th. For each locality a general statement as to the relative proportion of grapes transported some considerable distance to wineries and distilleries; together also with a general statement of the average cost per ton of such deliveries, and the average price paid in 1884 for the different varieties of crops at wineries and distilleries; with statements for 1885, if practicable, and a note of local rules determining the values of the same varieties in accordance with their quality.

28th. Concerning distillations, ascertain as nearly as can be for each locality the relative quantity produced directly from wine, as compared with others produced from pomace, or piquette.

29th. A general statement without detail (unless specially important in some localities) of the classes of products for which new vineyards are intended, as for instance for shipping grapes, raisins, brandy, sweet wines, dry wines, etc.

30th. Acreage of vines, not resistant, in

each locality that have been grafted upon prove stocks, and names of the vines grafted with. State separately where grafting is done on resistant vines, together with the percentages of failures that have been noticed in grafting.

31st. Time required in different localities for drying first and second crops of muscatels in the sun.

32nd. Average duration of fermentation in different localities of different prominent well known varieties of grapes compared together with the size of the fermentation tanks especially relating to their depth, average size for the cooperage for bottling wines after fermentation, and kind of cooperage used in cooperage; also general description of construction of cellars and fermentation rooms, with respect to the material of walls, thickness, etc., and control of temperature.

33d. For each prominent locality, during the periods of fermentation, average range of temperature in extension of atmosphere, being careful to obtain data from sources that will furnish fair information to the public, noting within what degree of ordinary fermentation, temperature is controlled by ordinary constructions and are in common use.

34th. Approximate estimates of cost of practice in different localities in the use of musts for fermentation; for instance, stemming or not stemming, and general observations as you pass in the vineyard concerning different varieties at vintage, showing the condition of the same, whether green or ripe, or approximately ripe, such other items as may become important and will serve for statistical information, such as the material used for stakes, the general cost of the same, the depth of which plowing is practiced in plantations, length of cutting used and the depth of which they are planted usually, etc.

35th. In connection with distillations, ascertain, as nearly as possible, localities, where it is intended to distill, whether the wine has been fermented in the skins, or not.

A subscriber to the MERCHANT AND GROCER, Charlottesville, Va., writes that grapes were ruined for a large crop in that section in places where the Norton Virginia variety were damaged by the cold Winter.

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San Jose. } & { San Francisco.

2,000. 80 ACRES IN THIRD YEAR. OVER
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very fine property at a bargain.

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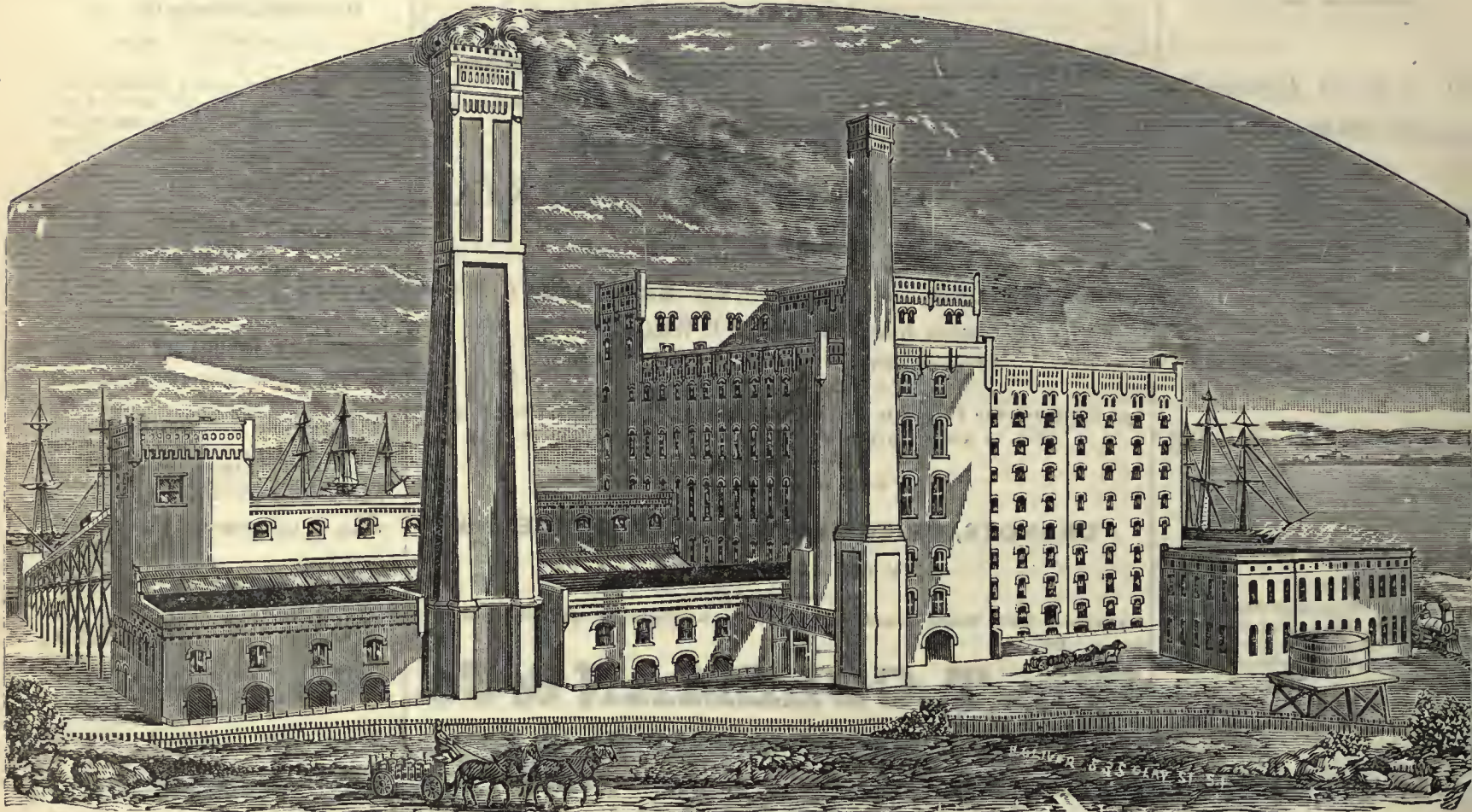
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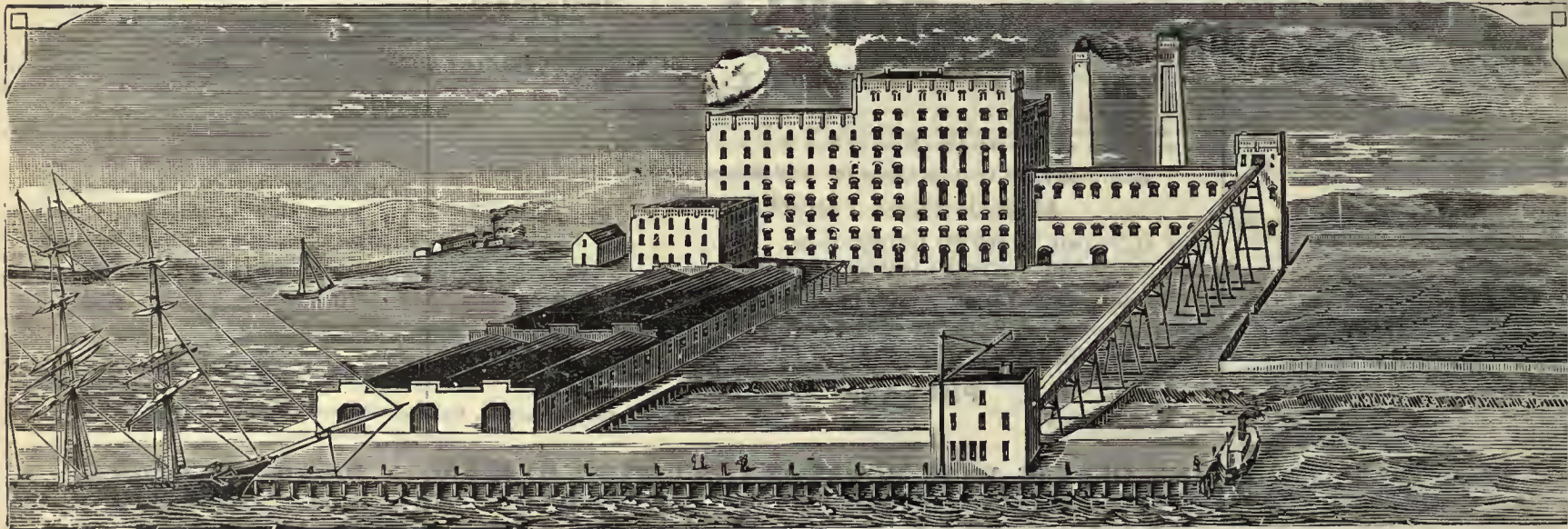
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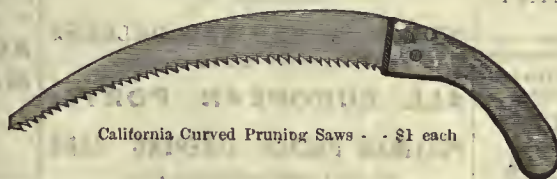
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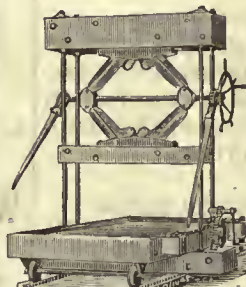
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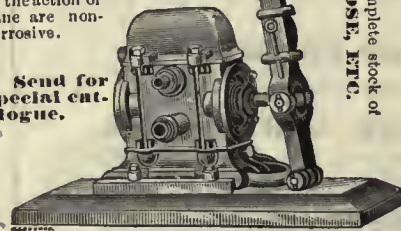
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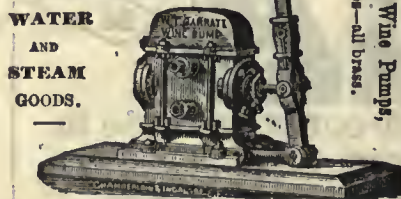
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THE SAN FRANCISCO CO. MERCHANT.

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WINEMAKING IN VIRGINIA.

Particulars of Cultivation and Cost—The Varieties of Grapes—Husmannized Wines.

The following interesting letter has been handed to us for publication by Mr. C. A. Wetmore, Chief Executive Viticultural Officer:

Chas. A. Wetmore, Esq.: MY DEAR SIR—Many thanks for your prompt compliance with my request for your Viticultural Reports, which are at hand and glanced over with anticipation of great pleasure in their perusal. You are engaged in a laborious, but pleasant pursuit, that must result in great good, not alone to California, but the entire United States, in the diffusion of knowledge concerning the vine.

I cheerfully furnish you with my crude information on the subject of grape culture and wine products of Virginia. Though in the earlier settlement of the State we find some sporadic signs of grape culture, followed in the earlier part of this century with regular planting of the *Vitis Vinifera* by President Thos. Jefferson right here, who brought over French and Swiss laborers to attend them, yet the existing viticultural development dates only a few years back—since the close of our civil war. The prior experiments of Jefferson and others proved failures, as has been the universal attempt for 150 years back, where it was attempted in the Eastern States. I feel convinced that the *Vitis Vinifera* will never succeed east of the Rocky Mountains, except, perhaps, in portions of Texas and New Mexico. This I attribute, not so much, perhaps, to the phylloxera, as the tenderness of its foliage, unable to resist the changes of atmosphere prevalent at all seasons. A recently developed interest, more extended than heretofore, in searching for new varieties suitable to our section, has introduced a number of European grapes, grafted on American roots, which have been planted this Spring. Of course, if I be correct about the causes of previous disaster being in the foliage as well as the root, these trials will result in failure.

The oldest existing vineyards with cellar attached, were growing in 1858 by Mr. Buck, near Front Royal, Va. They were mainly Catawba, which did fairly well, and to these have been added other kinds since the close of the war. This (Albemarle County) at present, leads in grape culture—

It was sparingly entered into in 1867-8 by Germans, in whose hands it remained mainly for a number of years, slowly growing. Although, as I know now, that with one or two exceptions, none of these had ever grown the vine or come from the districts where grapes are grown in Germany; yet they assumed to know everything about their growth as well as winemaking, at the same time surrounding the process with an amount of mystery that would seem to preclude others entering on their culture. The Concord was the leading grape, from which they made fine crops and a poor wine. Gradually as the Virginian perceived the necessity of varying his farm products, resulting from the total revolution of labor from the effects of the civil war, it dawned upon him that the culture of grapes was remunerative to those engaged in it, and seemed not to be so intricate as proclaimed, so far as the methods pursued by the cultivators were concerned, and that they too could raise them. They did so, and this has developed into a constant increase, as many of these natives are managing vineyards much more intelligently than those who first introduced it. This interest here is on an entirely different basis from that of California. Our people have it mainly in connection with other farm crops, from two to fifty acres, none make an exclusive business of it with largely invested capital. There are now planted, though not in full bearing yet, some 1500 acres in this county. Besides considerable quantities shipped to New York and other northern cities, last year produced about 100,000 gallons wine. The grape grower is not the wine maker, with two or three exceptions. The Monticello Wine Co., in this place, has a double-vaulted four-story brick cellar, with 100x46, of 200,000 gallons capacity, by the use of 2,000 gallon casks, under charge of G. Arnaud from Bordeaux, France. Mr. Hotopp, some three miles in the country, who has 60 acres in vines, started with a common house cellar, but subsequently excavated a crude cellar in a hillside of about 50,000 gallons capacity, to which he is now adding a wing of 70,000 gallons. These two furnish the home market for grape growers. The Monticello Wine Co. stockholders are largely composed of grape growers. Originally the Concord grape took the lead. It occupies relatively a similar position to that of your Mission. It makes a better claret, in fact, when made

pure at two years of age, from well matured grapes, it is a good table claret for general use. It has of late years become diseased with "rot," in many instances destroying the entire crop. This is a fungus, but the condition under which developed or the real cause of its production is unknown, and we are without any remedy. This threatens the abolition of this vine here. Ives Seedling is very prolific and healthy, save its early bloom, at times, subjects it to damage from vernal frosts. It is of foxy aroma, which diminishes with age of plant, and is neutralized in wine by age. Its color is rubily superb, and for that reason valuable for a blend. Clinton is perfectly healthy, but a variable bearer. Saccharometer known as high as 118 degrees, though 100 we call maximum standard for wine; excessive acid, over 11, makes it not a popular wine, though with age we find Germans fond of it. Color is rich. This with us is your Zinfandel. Norton's Virginia and Cynthiana now take the lead. They are good bearers, perfectly healthy, and make wine with superior properties. It is of a Burgundy nature, very heavy, with superabundance of color. We have met with German wine dealers, who cannot believe that the Ives and Norton wines have not been artificially colored. They say it is blue, that this element is defective in German grapes, but we have been in California so and so long, and therefore claim to know good colors in natural red wines. If these would visit our cellar and see some deposits at the bottom of some of the Norton wine casks when racked off, they would be compelled to laugh at the folly of any artificial coloring. Not in all, but in several instances, we find in a 2000-gallon cask, some 20 to 30 gallons of real extract, as it were, of Norton wines. This, when preserved with a little addition of pure grape brandy, is the strongest coloring matter imaginable. It is a curious fact, not observed till about two years ago. Result, I presume, of good vintage and superb grapes, hence only occasionally found. I have grown another grape, that makes a finer, and more delicate claret than any, but its field culture here does not pay. It is the Alvey, it has some vinifera blood in it. Fair sized, black bunch, good bearer, no pulp, each berry being a bag of rich colored juice, skin thin. This seems to me should succeed with you, and would prove quite an acquisition if a success.

These are the leading red grapes cultivated here. Delaware does well in places, and seems the favorite table grape in New York, where really our whole product is consumed. Last year we organized a grape growers association, through which to develop intelligent work in the vineyard. We have planted a large variety of new species, mainly seedlings from *Riparia* family; how these experiments will succeed, time will tell. As yet, most of the lands planted in grapes, have been poor and useless hill-sides, more recently it is recognized that the fruit is worthy of a good soil; that in fact we can't expect a continuous yield of healthy and profitable fruit from a sterile soil; that with all its extraordinary efforts to annually reproduce itself, even the vine must have food for nourishment, natural or applied. Lands for grape culture sell from \$20 to \$50 per acre, according to quality and proximity to railways. They are planted 6x8 to 12x12 feet apart, posted and trellis from two to three wires. New canes annually for bearing. Plowed with turning plow to the vine in Fall, and this thrown back from the vine in Spring. After that level cultivation, sufficient to keep down weeds, varying with seasons. Two or three hoeings under wire; first pronged hoe, to loosen the earth, after that simply to keep down weeds. Cost of bringing acre to bearing the fourth year, exclusive of land, from \$100 to \$150. Yield, from 2000 to 5000 pounds per acre. Grapes bring at cellar, from two to five cents per pound, according to kind and degree of sugar indicated by the saccharometer. It is self-evident from this that we must make wines that will bring in market a much higher price than yours, or such prices for grapes could not be paid.

The Monticello Wine Company has wholly repudiated the general practice of the Western States of so-called "Gallizing." True, this is a misnomer and unfair to Dr. Gall, who simply pointed at a method of making a fair drinkable wine out of miniature grapes, never intimating that good ripe grapes should be so treated. Mr. Husmann, formerly of Missouri, but now with you in California, unfortunately, as I think, advocated in a work much followed, this system, extended to ripe grapes, not only to modify the excessive acid but also the flavor. He even suggests that grapes shall not be allowed to get fully ripe in order to resort to this method, claiming

that the wine is better than that from full, pure juice. So it is, at six months of age. The Husmannized wines can be drunk and they are more palatable than that which is pure. This latter is miniature must not fit for use. Keep each a few years, however, the first breaks up, the other develops the finer properties of wine. This speedy method of converting the juice into cash, was so tempting, that it is doubtless carried beyond Mr. Husmann's limits, enabling the Western cellars to put them on the market young, very cheap, and exceedingly profitable. This, however, I conceive to be a radical error towards building up the character of American wines. We make them pure grape juice, requiring two years at least to fit for consumption.

There are in Nelson County, Va., two smaller vineyards with cellars, making wines. Heineken & Peters, in Prince William County, also makes wines in cellar, as does Frash & Co., in Orange County. These are all the cellars known to me in the State. Grapes are grown more or less at many different points in the State, notably around the city of Richmond, where they are now agitating the feasibility of building and properly equipping a cellar.

Very respectfully yours,

OSCAR REIERSON,

Charlottesville, Va., May 23, 1885.

A Word From the South.

EDITOR S. F. MERCHANT:—I wish to correct an error which occurs in an article written by Mr. F. Pohndorff, in your issue of June 19th. He says: "I may be wrong, but have more than once pitied the stubbornness of our southern grape-growers in not only sticking to, but even multiplying the Mission vine. They had only two years ago the good advice of gentlemen who warned them, because they could do so from experience and wished the Los Angeles well, but they despised it."

Now, it would be interesting to the Los Angeles to know from Mr. Pohndorff how he knows that "they despised" this advice. If any one told him so, then he has certainly been imposed upon, for substantially there have been no Mission vines planted here for the last two years, but thousands of acres of foreign varieties have been planted.

It may be a surprise to Mr. Pohndorff, that we have planted more foreign vines in the last two years than any county in this State. Mr. Nadeau, some few years since, planted very largely of Mission vines, but since then has planted 500 acres of foreign. Mr. Shorb has planted 500 acres. I have 650 acres. Messrs. Mayberry, Dreyfus, Monroe, Stillman, Langenberger, Johnson, Dr. Griffin and hundreds of others have planted from ten to a hundred acres or over, and all foreign varieties.

Whether we have planted the "proper varieties" time can only tell, but I know of no variety, that can be bought north, that is not planted here too. If Mr. Pohndorff can tell us what to plant for this locality, he will find us all most willing to listen with thanks to his suggestions and advice, but we do not feel thankful for such little slurs as I have quoted from his letter, for they are not deserved, and we think he should be sure of his facts before he publishes such information. We are keeping fully abreast with the march of viticultural improvement.

L. J. ROSE,

Sunny Slope, San Gabriel, Cal.

Sample copies of the MERCHANT will be sent where requested by our subscribers.

GRAPE-SYRUP.

How to Utilize the Muscat Grape.

The following letter has been handed to the MERCHANT by Mr. F. Pohndorff of St. Helena:

H. J. R., Riverside: SIR:—Mr. Charles A. Wetmore sent me your letter to him of 2nd inst., respecting utilization of second crop of Muscat grapes, and desires me to reply to it.

No Muscat grapes can be, or ought to be, used in Sherry wines. Any blend in that cleanest of wines from the most delicate varieties employed for rearing Sherry in the province of Cadiz, of drops only of the juice of the too decided flavored and savored Muscat grape would be defiled and rendered worthless by the latter. Of French concoctions of Sherry imitations I am incompetent to render account. As regards syrup or boiled-down must from Muscat grapes for its use in Sherry, the same reason holds good which I adduced about fermented Muscat juice. People in Andalusia would not think of making syrup of that grape.

Now, you have that variety in your region and wish to utilize it, particularly the second crop. If in favorable years you have the possibility of maturing that irregular second growth sufficiently to yield you a harmonious liquid, that is to say that its saccharine weight be equipoised by the rational and proper degree of acids, in this year you may have difficulty in this regard. I do not know the fact, but should judge from the retarded maturity elsewhere of the crop through the continuation of very cool weather. If you can get a saccharine percentage of from 23 to 25, you may ferment the juice and get a wine which, in the last few years, has not exactly been easily marketable, because there was too much of it produced and too little consumed; few persons desire to drink Muscat wine. Of sweet Muscat a quantity is produced which fills about the demand. Southern Muscat wines (sweet) have the defect of losing their fruit flavor after the first year of keeping, and although the wine, when aged, is certainly superior in its hygienic qualities, for the connoisseur, age and consequent entering of the fruit flavor into its savor is also of merit. I do not know to what degree there would be appreciation in the practical sense, I mean what augmentation of price would result versus cost, evaporation and interest.

Still, nothing would be in the way of utilizing your second crop of Muscat grapes for a sweet wine. The procedure would be the following: Presume a sugar proportion to be reached on the vines of 23 per cent. By turning the stalk of the bunch or twisting it in such a way that the sap flow is stopped, you may, if the sun heat suffices, in a few days reach several degrees of sugar more by loss of liquid evaporated. You may then cut your grapes and by drying them in the sun for a certain time, protecting against night moisture by covering them at sunset, if you have then, say 29 to 30 per cent of sugar, you can make a sweet Muscat of merit. You would however at that density of saccharine have to prevent fermentation of the liquid pressed out by the addition of alcohol. The wine results expensive, but you will have a good wine to lay up and age, which after a few years will be a good dessert wine. You may avoid using alcohol for securing the wine against fermentation by a stronger concentration of the saccharine through prolonged

drying in the sun. If you reach 34 or 35 per cent saccharine you will probably have a density sufficient in itself to be insured against fermentation. But the nature of the grape both as to variety of Muscat and that given by the peculiarity of the soil and climate would make the result dependent upon experience. Muscats of the accepted variety in the Jerez district, grown in calcareous soil, will live in concentrated form without alcohol and their splendid wine you will find represented as a high type, of ages from ten to fifty years. These have never had spirit addition and are left on ullage, the bung being a piece of cork. You will have to make trials in order to obtain precedents for future action in a similar direction there.

If your sugar content this season in the Muscat second crop grapes remains low and the acid proportion high, your simplest plan will be to crush them, ferment the juice and distill the same. The value you can calculate. Two per cent of saccharine found by the glycometer or must-scale, will yield you about 1 per cent of alcohol or each sugar degree about 1 per cent of brandy at proof strength. If you have many sunburnt and defective grapes, the utilization for brandy will be the best manner of getting value for them. Regarding the peculiar flavor and taste of Muscat brandy, which is not exactly esteemed by the trade, there are persons who like it. I know of liqueurs made of Muscat brandy which distinguished their manufacturer for a medal at the Paris Exhibition some ten or eleven years ago, a man from the Ionian Islands of Cephalonia, and should from that fact deduce that, if utilized by a liqueurist in the proper way, the brandy from California Muscat wine might be similarly proper for the purpose.

Now as to grape syrup, as said for the purpose of sweetening clean wines such as Sherry and Ports, if right, ought to be, that made from Muscat wine I deem dangerous. In the province of Seville the best grape syrups are made for low Sherries and for general use of two kinds of grapes, which are now prospering in several of our California vineyards. I imported them. But again, you have not these, but wish to utilize your second crop Muscats. Extreme sweetness and low acids are the conditions for a grape to be used for syrup. You will probably not make it pay if you have the contrary conditions present in your grapes. Perhaps nothing might be sacrificed by adopting the method of previous concentration of saccharine by sun-heat, as the water element has to be eliminated anyhow, if boiling the must down for syrup. But as in every case of must boiling disacidification of the juice has to take place, syrup with acid being a defective syrup, in the case of not perfectly matured grapes, which hold an un-anomalous proportion of acids, this is requisite in an augmented degree. You disacidify best with powdered marble (free of iron and other metallic elements) which, stirred into the must before put in the boiler, will imbibe and saturate itself with the acids. Peasants in Southern Europe take often wood-ashes for the purpose, but I should consider this giving off salts to the must in exchange for acids. If the Muscat juice syrup cannot easily be used for wine purposes, there may be another way of employing it. In some Mediterranean coast regions of Spain, where grapes are abundant and consequently cheap, must of them, (I do not know though if Muscat is used) grape syrup or "Arrope" in Spanish, is made for the purpose of

fruit preserving and general household use; chiefly for making calabazote, which is a preserve of the calabash, rendered a savory and healthy article of food by the syrup penetrating the slices of that gourd. These slices of calabaza are macerated in lime water to give them consistency and put into the boiling syrup, the latter being constantly skimmed off the froth, and concentrated to the degree desired. If at once a sufficient quantity of grape juice cannot be obtained for one boiling, it may be kept until ready for this operation by sulphuring it, thus preventing fermentation, and by rest it is clarified, the sediment forming being of course eliminated. A simple boiler for heating the must gently may be used wherefrom the boiling juice may for its real concentration be put in another boiler with stronger fire. Before being thus transferred it can, at a gentle heat, be dis-acidified in the first boiler. If left for 24 hours cooling down from the first heating it will be convenient for the dis-acidifying action. Clarifying the juice then by stirring egg-white into the same (racked of course off the marble precipitate) can be done in the second boiler, where condensing is going on. Fresh beef blood, two to three gallons stirred into 100 gallons of must is a good clarifier. Having reached a density of 26 degrees at Beaumé scale, it can be taken out of the boiler and in casks left to cool. After some time of repose and settling of heavy matter it can be syphoned clear into another vessel and must then be boiled again until concentrated to 34 degrees of Beaumé. This tedious process will produce a good syrup, and, I should think, the Muscat flavor may be neutralized to a high degree, so that it can be utilized for sweetening wines of ordinary quality. In any case, you may try to employ it for preserves of the calabash-squash, peaches, grapes or other fruit and the foundation of ample consumption of the Muscat grape be formed. The bain Marie will be the proper arrangement for the preparation of these preserves.

In lieu of the old-fashioned method of boiling the must into syrup in boilers over an open fire or by steam, in which latter way the syrup, under constant stirring and skimming, results in a fine yellow color and without any taste of carbonization, the arrangement of fines or worms in oblong boilers is an improvement and would be for a larger manufacture a necessity. The most perfect apparatus for an installation of importance is that of concentration of must in vacuum invented by Springmuhl. This apparatus, which works on a very large scale, is properly destined to reduce must in volume, or rather concentrate all essential parts less the water into a mass, which is particularly useful for blending with poor musts and render these, especially in Northern grape regions, superior in quality through a fermentation of their enriched component parts. Where a great abundance of fruit should make it desirable to concentrate must and save freight in sending it to great distances, such concentrated musts would be a ready means for rendering imperfect ones useful and remunerative. But this case is doubtless not as yet present in your region and the Springmuhl concentrator therefore superfluous.

Upon your desire I shall always be ready to answer questions of details. It is not easy without seeing your produce of the late crop, to suggest immediate means of utilization and I have to write vaguely and hypothetically.

Yours truly,

F. POHNDORFF.

St. Helena, September 17, 1884.

FACTS FROM FRANCE

On Diseases of Vines, Grafting, Wine-Making and Manuring.

The Regional Concours (an agricultural convention) at Toulouse, held in the last week of May, has been a great success, and in regard to the viticultural part was replete with information on the part of men of the highest oenological standing. An exhibition of agricultural machines and appliances was connected with the convention, and the visitors to the same and the audiences at the nine sessions were very numerous.

M. Dcussy, an ex-deputy of the legislative body, acted as President. In his opening speech he advocated the establishment of an Agricultural Credit Bank, and touched several points of interest for the district.

M. Cotard, an engineer, spoke of the importance of canals and management of water courses for irrigation and submersion of vineyards to kill phylloxera. On this last subject M. Maistre spoke also and mentioned efforts in Italy to irrigate a million of acres of vineyards. If irrigation over-excites production and somewhat lowers the quality of wine, it is efficacious in trying to save the vine from the grape louse. The other means of warring successfully against that destructor, which are the American resistant stock, sulphur of carbon and killing the Winter egg, were spoken of by M. De Massonneau. He emitted the opinion that American vines should be used for grafting on, not as direct producing vines, and held that the worst of French varieties were preferable to the best American ones. Like his teacher, M. Balbiani, the orator considered the destruction of the Winter egg the best way of cutting off the life of the phylloxera.

M. Gaston de Bazillé's discourse was attended by quite a full audience. He advised in vigorous terms to extend planting of American vines to graft on, stating that 68,000 hectares were thus regenerated. Following the same course generally, he predicted the cessation of supply of wines from Spain within a short period.

Mr. Foex spoke on parasites of the vine. Oidium is known and the way of conquering its inroads. Anthracnose or Charbon, which has attacked as badly the Jacquez (Lenoir) as the French varieties, is made to disappear like oidium by sulphurings, by a mixture of lime and sulphur, and some iron sulphate. But he said peronospera, the latest enemy, has not yet found its antidote, and does enormous harm. The wines of Aignes Mortes of 1884 were reduced by its effects on the vines to 4 per cent of alcoholic strength. The only means of combating peronospera were the choice of varieties that resist best that cryptogame. He had tried an emulsion of 10 per cent of phenic acid with water and soap and noted some good effect.

M. de Martin discussed oenological questions and his remarks were a compendium in itself. He dwelt on the necessity of triturating or crushing the grapes and of fermenting musts in closed vessels. He recommended the use of the hydraulic bung both during the tumultuous and the latent fermentation, the racking of wines under exclusion of air. He advised prudence in mixing the liquid from the press with the pure grape juice, and explained his reasons for considering plastering the vintage both necessary and innocuous. (Presumably he stated also, the proportion which, according to his ideas, are permis-

able.) Instead of fortifying with alcohol such feeble wines that cannot be kept without it, M. De Martin advised to raise the saccharine of low grade must before fermenting by adding sugar, considering this the normal way of fortifying (vinage.) The speaker gave vent to his patriotic feelings by claiming the magnificent inventions for manufacturing and preserving wines as the offspring of the brains of French savants, from Lavoisier to Dumas, not forgetting Pasteur, of whose genius the world envies France. [While honoring M. Pasteur as the greatest genius, there may be some dissent from France arrogating all the splendid means of progress in oenology. Other nations have a right to some share in the honor of contributing to what has become common property in regard to making and preserving wines to perfection.]

M. de Capelle asked for a resolution condemning adulterations of wines and demanding rigorous laws for repressing frauds.

Discussions on manures for the vineyard gave M. de Beauquesne occasion to attribute great merits to nitrate of soda in small doses, and to Mr. de Lapeyronse to express his views about the necessity of phosphorous and potash for obtaining both quantity and quality from the vine.

Several local questions, some controversies about reciprocity, free trade and protection, lower tariffs of taxes on wines and other subjects filled up the sessions.

These gatherings are held in great honor in France, and certainly where men of the grandest names in oenology add their experience and advice to the stock of knowledge generations have bequeathed on the grape growers in Europe, it is natural that every one should be eager to listen to them. How much more, however, should we, in our infant industry, try to enlighten and be enlightened in our own conventions. No one will dissent from considering our gatherings of great benefit, nor should any one think himself excused from not being present when we thus meet for discussing our needs and the interests of the wine industry. F. PRFF.

Healdsburg.

[From an Occasional Correspondent.]

The annual election of officers for the Healdsburg Viticultural Society took place on the 27th of June, resulting in the election of R. R. Givens, President; and P. J. Ferguson, Secretary, each for the third term. C. Sargesson and G. S. Hamilton were chosen Vice-Presidents, and W. N. Gladden, Treasurer. The society is in a flourishing condition, numbers fifty members, has money in the treasury, and meets on the third Saturday of every month. Healdsburg is in the midst of an excellent vine section, and it is said that the best large body of wine made in the State was shipped from the Finlayson Winery in North Healdsburg. The capacity of this cellar is being enlarged, so that it will be among the largest in the country. The grasshoppers have made serious inroads on the vineyards and corn fields. Some fields have been totally demolished and others badly damaged. Coulure has reduced the Zinfandel to a half crop, and most other varieties to a lower percentage. There is nothing definite yet in regard to the prices likely to be ruling, but it is reported that the wineries will pay \$25 for first class foreign grapes and \$15 for Mission. The Viticultural Society adjourned

their meeting on June 20th, to allow members to attend the lecture of Mr. Wetmore at Cloverdale. That gentleman has promised, upon his return from the East, to visit Healdsburg, and lecture before our society. We look forward to this occasion with anticipations of pleasure and profit.

The Muscat Grape.

EDITOR MERCHANT:—I am sorry to say that the hopes I indulged in, when I was in San Francisco last, were illusive. I am satisfied that Muscats are not a success on light soil, the principle ingredient of which is granitic sand. The land in which I planted the Muscats is a strong soil, it makes heavy growth of vines and most kinds of grape vines do well on it, but a little too much rain at a particular time in the development of the blossoms causes blasting. The French word *coulure* does not express the malady. It extends to the leaf as well as to the blossom buds. Mr. Wetmore I believe to be right in his estimate of the influence of late rains on the Muscat grape. April was comparatively a wet month for this region, 2.60 inches fell. One of that amount fell on the 27th and 28th of the month, the effect was at once apparent on the foliage, the leaf had in two or three days the appearance of having been scalded, only not wilted. The translucency was either over the whole leaf or around their margins. The undeveloped bunches of buds did not seem to be at once affected, but as the leaves turned black the fruit buds followed the same way, until this year, as last, the crop was totally blasted. The whole vine was arrested in its development. Although I have not irrigated them since, they are now making good, healthy growth, and I do not doubt there will be some grapes developed on the secondaries as a second crop but they will be of little value. The condition of the vines is the same as last year. Under the advice of Mr. Wetmore, I had about one-half of the vines pruned to five buds, and the other half to two, as in the usual manner, and when I visited the fields three days after the rain, the difference was well marked, and greatly in favor of the long pruned, but in the end the result was the same on the embryo fruit. I am resolved to graft the whole, as fast as can be done at proper season.

On the latter point I have a word to say. I had about five thousand vines grafted last Spring, chiefly on Blaué Elbling stock. Those that were made earliest after the sap began to flow were the most successful. They made uniform and rapid growth. As the season advanced the number of unsuccessful grafts increased. I believe them to be so, because they do not make much growth, only a tuft of small leaves to show the scions are not dead, but struggling for an independent existence by their own roots. This is especially the case with the Boal and Clairette Blanche, grafted on Blaué Elbling. In the case of this lot, the scions were buried deep in the earth to retard their growth until the proper time should come to graft. About ten per cent are making great growth as expected, the others where not actually dried out are, as I said, trying to save themselves by throwing roots from their own proper wood.

J. D. B. STILLMAN,

Lugonia, San Bernardino Co.,

June 29, 1885.

Some rich irrigated fruit land at Fresno is offered for sale at \$40 per acre, by A. W. Bull, of California street.

REMARKS OF THE JURY

On Some Wines From American Resistant Vines Exhibited at the Regional Concours at Montpellier, France.

White wines from American vines were declared as of little interest, and not able to be put parallel with Terrets, Bourrets, Picpouls and Clairettes. The jury advised French grape growers not to cultivate white American varieties. Among the reds there are types worth studying. Jacquez had, at the beginning, been classed high on account of its rich color, and the high degree of alcohol (14 per cent) it reached. Only the small produce from this vine was considered a drawback. Through proper pruning and good selection, it has been brought to render 60 to 90 hectolitres per hectare, but the alcoholic degree runs down to 9 or 10 per cent. Its color is not tenable. From deep blueish red in Summer, it turns into an orange shade and deposits its coloring matter steadily. Then the wine sours easily. Good care and an addition of tartaric acid seem to correct the defect of its color turning. But, the jury thought Jacquez, (or Lenoir) wine had but one object, and that was its use for blending.

Othello wines, from the Agricultural College of Montpellier, had a remarkably deep color and a high alcoholic strength, but the defect of a foxy taste. By long contact with the pomace this defect seemed an increased one. By proper blends the foxy taste seems to disappear. Being a fertile and phylloxera resisting wine, the propagation of the Othello in deep, rich soil is recommended.

Black July and Norton were considered as very indifferent.

Herbemont, not obtaining color, was of no interest for the Languedoc district.

Canada was found of good quality, but its vine is not considered remunerative.

For grafting stock only the American vines were considered useful for the region

A Resistant French Vine.

Monsieur Terrel des Chenes publishes a letter in which he explains his observations regarding the differences between the Grosse and the Petite Etraire vines. This variety has stood the test and is claimed to be proof against phylloxera as well as against mildew. M. Terrel des Chenes therefore is of opinion that both Etraires, will, in the continuation of the time of suffering, become the most desirable of all resistant vines, because it is a home variety of France, and because the Grosse Etraire is a good plant for quantity and very estimable quality, and the Petite Etraire is classed among plants of quality, if not among fine plants, yielding also a notable quantity. They have resisted without any treatment and without care for ten years. M. Terrel des Chenes recommends this variety to French vigneron with full persuasion of their merits, and exhorts them to study and record their observations on their propagation. He remarks that ampelographies contain hardly any mention of the valuable Etraire, except one which briefly states the synonym of Persan of Savoy, and mentions the Etraire de la Dui, an improvement on the Isère plant Etraire.

Messrs. F. Korbel & Bros., of Bryant street, San Francisco, announce that they are prepared to fill orders for redwood tanks with the best material.

RAISINS.

Since the last issue of the MERCHANT considerable prominence has been given in the press to the raisin question. With all of the statements made and opinions set forth we do not agree. In the first place we find the Riverside Press and Horticulturist recommending that California should discard such brands as "London Layers" and adopt local terms such as Riverside, Orange or Fresno layers. This would be a great mistake. The term "London Layer" is a grade of a special quality that is recognized all over the world. It is used in Malaga as a trade term. If California wants to maintain her position and supremacy she must grade and call her raisins as others do, or there will be endless confusion to our serious detriment. Let there be a distinction of California raisins with Orange, Riverside or Fresno pack. Adhere, by all means, to the recognized trade terms of grades as customers in the East do not know, and cannot distinguish, all the individuals who own comparatively small packs or their localities. They purchase solely according to the recognized trade standard.

Our raisins should be packed as follows: First grade, Dehesias; second grade, London Layers; third grade, Layers; fourth grade, Loose Muscatels. These last should be loose raisins from the Layers and London Layers and should average in quality half-way between these grades. All that are not up to this standard should not be, as hitherto, packed as Loose Muscatels but should be sold in 50-lb. packages as dried grapes. Loose Muscatels should not be the refuse of a packing, as has hitherto too frequently been the case in California, but the finest raisins that have dropped from the stems of the Layer and London Layer grapes. A fault with California raisins has been that the sun-dried fruit were to a great extent undercured and consequently spoiled if kept for any length of time. Many of the machine dried raisins have been cured in machines that are not perfect of their kind, and some parties, who do have good machines, do not understand how to use them. Machine drying requires great discrimination, extreme care and a great deal of experience.

The Muscat crop has, in some places, been blighted this year as it was last year. But on account of the increased area coming into bearing there will be a larger crop than last year. If the Government quarantines Spanish raisins, owing to the prevalence of cholera in the Malaga district, there will not be sufficient Muscatels to supply the market. One great fault that appears to be ingrained in Californians is the reckless statements that are made concerning enormous yields which are not born out by subsequent facts. California may possibly produce from 200,000 to 250,000 boxes of raisins this year. Such wild statements as 350,000 to 400,000 boxes are simply ridiculous and serve only, for the sake of making a boom in certain localities, to depreciate the market. Our estimate for the coming crop is as follows:

Riverside.....	60,000
Northern California.....	55,000
Fresno.....	40,000
Orange.....	35,000
Los Angeles and neighborhood.....	10,000
Extreme Southern California.....	10,000
Total.....	210,000
Crop of 1884.....	160,000

There is no doubt that grape growers, this season, will use other varieties than the Muscat for drying. If these products are not falsely labeled so as to injure the Muscatel raisin, it will be a benefit to the State. The varieties likely to be used, other than the Muscat and Seedless Sultana, are those which have a firm flesh and sufficient saccharine to make a good palatable fruit, viz: the Flame Tokay, Black Malvasia, Feher Szagos and White Malaga. No doubt other more juicy varieties can be dried and sold as dried grapes packed in barrels, as there has already been considerable success in that line. But they should never be termed raisins. In the Bay counties it may be difficult to dry the Black Malvasia and others suited for this purpose unless growers make instant preparation to procure artificial dryers or enterprising persons purchase the grapes which they could do in this city. Circumstances this year favor the prospects of the raisin makers who should make every effort to protect their reputation for best brands against false labeling of inferior articles. They cannot begin to act for protection in this respect too soon. It has taken many years of up hill labor and skillful manipulation to place California raisins in their present prominent position in the market. Any false step will be, both individually and collectively, seriously detrimental to the interests of the whole State of California.

RAISIN SHIPMENTS.

The overland raisin shipments for the month of April are chiefly remarkable for their smallness and the fact that they were sent from only two of the distributing centers, and that none were shipped from Los Angeles. It is probable that shipments of raisins will still further decrease until this season's crop is in the market. The figures for April are as follows:

FROM.	Northern Route.	Southern Route.	Total No. pounds.
Sacramento.....	33,680	1,170	34,850
San Francisco.....	34,550	.....	34,550
Total No. pounds.	68,230	1,170	69,400

Since the above was in type we have received the overland raisin shipments for May. As we predicted they are much less than those for April. In this month, however, Los Angeles again puts in an appearance and takes the lead. The figures stand thus:

MAY, 1885.			
FROM.	Northern Route.	Southern Route.	Total No. pounds.
Los Angeles.....	17,240	650	17,890
San Francisco.....	9,470	270	9,740
Totals.....	26,710	920	27,630

Duty on Raisins.

Bradstreet's says, in an article on raisins which we reproduce in this issue, that "it is a strange coincidence that this country and Great Britain should place a duty upon raisins." Almost all the raisins of this country are produced in California, where the industry is still very diminutive. To enable those who are engaged in the business and endeavoring to establish this new industry it is absolutely essential that there should be a tariff or they would be unable to compete with the imported raisins which are produced in a cheap labor country where wages range from 15 to 45 cents a day. It is a moot point whether the tariff is even now sufficient to enable the raisin makers of California to make any profit. One season at least has proved a disastrous failure to them. Protection must be guaranteed to ensure success

RAISINS.

[Bradstreet's, June 20th.]

Dried fruit is very popular with all Anglo-Saxon people, and raisins, next to currants, are the most patronized. There are several varieties known to the trade as Muscatels, or London layers, and loose Muscatels, all of which are exported from Malaga, some distinguishing them by that name. These are the most popular with the American people. Next rank the Valentias, which are exported principally from Denia, and are most popular in Great Britain. Then come Elmes, or seedless, as they are termed, and Sultanas, which are seedless likewise, but are not known by that name, and are not nearly so largely consumed here as in Great Britain.

In Muscatels the United States have been for a number of years the largest consumers. So far this year the exports amount as follows, compared with same date previous years:

	1881.	1882.	1883.	1884.	1885.
United States.....	987,378	907,570	893,379	786,334	563,054
Great Britain.....	567,177	31,730	88,431	21,473	24,058
France.....	171,841	141,015	169,638	178,604	133,986
North of Europe.....	291,595	248,564	269,542	273,073	180,241
West Indies and South America.....	103,357	126,946	126,946	146,471	80,594
Mediterranean and Portugal.....	61,903	60,091	71,959	71,959	55,380
Coastwise and Interior.....	86,976	57,870	74,310	64,288	40,980
Totals.....	1,749,067	1,558,202	1,614,460	1,512,182	1,078,281
	93,933	70,798	94,640	102,318	71,619
	1,843,000	1,629,000	1,739,100	1,614,500	1,149,900

The crops in recent years have not been so large in consequence of the disease among the vines, at the same time the consumption of Muscatels has not been as large, Valentias taking their place to a considerable extent. The following tables give the price of Muscatels and Valentias for December, each year, that month usually being regarded as the height of the season. The prices quoted being duty paid:

	Per box.
Muscatels—	
1870, duty 5 cents per pound.....	\$2 65@4 00
1875, duty 2½ cents per pound.....	2 80@ 4 10
1878, duty 2 cents per pound.....	1 90@ 2 10
1879, duty 2 cents per pound.....	2 10@ 2 40
1880, duty 2 cents per pound.....	2 00@ 2 50
1881, duty 2 cents per pound.....	2 55@ 2 80
1882, duty 2 cents per pound.....	2 00@ 2 35
1883, duty 2 cents per pound.....	1 75@ 2 30
1884, duty 2 cents per pound.....	2 65@ 3 10
Valentias—	
1870, duty 5 cents per pound.....	15 @16 cent.
1875, duty 2½ cents per pound.....	10½@11 "
1878, duty 2 cents per pound.....	6 @ 6½ "
1879, duty 2 cents per pound.....	7 @ 7½ "
1880, duty 2 cents per pound.....	8½@ 9½ "
1881, duty 2 cents per pound.....	7 @ 8 "
1882, duty 2 cents per pound.....	9 @ 7 "
1883, duty 2 cents per pound.....	6½@ 7 "
1884, duty 2 cents per pound.....	9½@ 9¼ "

The total amount of raisins of all kinds imported into this country during the fiscal year ending June, 1884, amounted to 53,702,220 pounds, valued at \$3,290,150, which was the largest amount ever imported, and the lowest prices reigned during the crop year 1883 ever seen since the war. New fruit arrives early in September, the bulk of the shipments being made from August to January. The consumption is more even in this country than in Great Britain, extending fairly well over nine months of the year. In Great Britain the bulk of fruit is consumed in the month of December and the beginning of January.

The consumption of raisins in the United Kingdom for the first four months of this year, according to official figures, show a remarkable increase, amounting to 3,718 tons in 1883, 4,728 tons in 1884 and 5,036 tons in 1885. The condition of the crop, as

well as the extent, has a good deal to do with the consumption in both countries. When the fruit is gathered in good condition it is decidedly more popular with consumers than when the season has been wet, and the fruit in consequence out of condition, although the price may be low.

At present the domestic raisin has not made much of a mark. The production being limited its effect upon the foreign article has not been felt. That this Californian industry will increase no one can dispute, but it must be a long while before it will supersede the foreign product. This year's crop may exceed 5,000,000 pounds. Shipments East this season amount to 3,186,430 pounds.

It is a strange coincidence that this country and Great Britain should place a duty upon raisins. In this country it is 2 cents a pound and in Great Britain 7s. per cwt., or 1½c. a pound. This duty presses very hard upon the consumer in both countries, particularly the poorer classes, who consume the lowest quality of fruit. In many cases the duty amounts to more than the absolute cost of the article. At the present time, if we take dates as an illustration, the market price is 2½@2¾c. for Muscatel dates, of which 1c. goes for duty and 1½@1¾c. to the grower, shipper, dealer and shipowner. In a prolific season, if there was no duty upon raisins, the consumer would buy really choice fruit at 5c. a pound. Foreign dried fruit is a remarkably good subject for tariff reformers, the home production being limited to a few raisins and figs.

It is reported that Mr. G. A. Cowles of El Cajon is devising a machine for sorting, stemming and grading raisins. When he has achieved this degree of success he proposes to so perfect his invention that it will ship his fruit to market, sell them and bring home the cash free of brokerage. It is also reported that the crop of Muscatels in the Cajon valley, including those of Mr. Cowles, will this year be very large. It is the intention of Mr. Cowles and others in that region to adopt a first-class uniform style of packing so as to command the highest price in the Eastern market.

Zante currants, which are shipped from Mediterranean ports, are really a grape and not a currant as is often imagined. They are exported chiefly from Algiers, Cyprus, Asia Minor, Italy and the shores bordering upon the Adriatic. These localities can and are producing tens of thousands of tons which are shipped mainly to England and the United States, the growers being well content with a return of \$12 and \$15 per acre.

California has reason to be proud of its victories gained at the New Orleans Exposition. Wine and fruit are always associated with music, consequently our viti-culturists will be pleased to read, in another column, of the success of the T. M. Antisell Piano Co. of San Francisco who, among all competitors, obtained a gold medal, diploma and special mention for their pianos. This is another gratifying instance of the success of Californian industries.

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THE MOREL PROCESS.

Professor Hilgard Criticized by an Experienced Winemaker.

To THE EDITOR OF THE SAN FRANCISCO MERCHANT: *Dear Sir*—In your issue of June 5, 1885, you published Professor Hilgard's report to the State Viticultural Commission, in which the Professor submits the process of fermenting red grapes, without crushing, to severe criticism.

There are to my knowledge only two vineyards where this process is practiced, viz: mine and the Barton Vineyard in Fresno.

The Professor in his report refers principally to my vineyard, and from the positiveness with which he states the details of the process here, one would conclude that he was present at the season of winemaking.

That, however, was not the case. His visit of inspection was made at a time when my fermenting-house was used as a store-house, and the tanks were not even prepared for the next vintage; and, unfortunately, neither myself nor my winemaker was present to give the Professor correct information.

Those facts will explain why the Professor in making and reporting his "Studies on Wine Fermentation," arrived at some erroneous conclusions.

The Professor in stating his objections to that process says, for instance:

"That wines fermented thus are not likely to be good keepers is apparent, when we consider the most ordinary rules current among winemakers elsewhere. A regular, uninterrupted fermentation is always commended upon as being one of the prime needs for the production of a sound, and well-keeping and shipping wine. It is even considered bad practice to introduce any fresh must into a previous day's crushing or pressing, and except in cases of necessity, no one will think of mixing fresh must with wine that is nearly or quite through its fermentation. Now, this is precisely what is currently done in the "Morel process" (as this method is usually designated at Fresno), for, every day fresh must is mixed with the partially fermented product of all the previous days. Moreover, each portion so added is carried very rapidly through its fermentation by the overwhelmingly large mass of fermenting wine with which it comes in contact; and here again, one of the conditions, conducive to good keeping, viz: slow fermentation, is violated."

In answer to those objections it will be sufficient to say, that they are based upon an error committed by the Professor in describing the process.

In his description the Professor says:

"In these (the fermenting tanks) the grapes are at once dumped from the wagon without previous steaming or crushing; these objects being accomplished gradually by a daily or twice daily working with wooden stirrers, etc., etc., etc."

If the Professor had been present at the time of wine making or had sought information from the proper persons, he would have learned that each fermenting tank after being filled with grapes is left untouched until the grapes have acquired the proper temperature for crushing, and that then working with the wooden stirrers is commenced and continued until all the grapes appear to be crushed.

Hence, "the prime needs for the production of a sound and well-keeping shipping wine" are not violated by the Morel process if practiced with common sense.

This assumption is corroborated by my own experience, as I have made many shipments of wine produced by this process, in small and large lots, by rail, steamers and sailing vessels, without any complaints as to the keeping qualities of the wine.

I fully agree with the Professor, when he says that:

"There is a limit to the time during which it is desirable that the wine should be in contact with the pomace and more especially with the stems, always introduced in this method, when wines of fine quality are to be produced. Such long maceration presupposes a very clean and perfect material, if serious defects of taste are not to be felt in the wine."

I wish, however, to call the attention of the Professor to the fact, that fermentation by this process does not take by far the length of time which he seems to think.

The records kept for several years show that the violent period of fermentation never occurred before the third day from crushing under this process, and only in a few cases as late as the fifth day, so that usually the process of fermentation did not occupy more than seven or eight days, and only in one case of extreme heat, during the vintage of 1883, did it require ten days.

This length of time does not seem to have exercised any bad influence upon my wines, at least I have had no complaints from my numerous patrons, and Professor Hilgard himself wrote to me April 19, 1884, as follows:

"I am reminded in this connection of a clarat of yours, that I tasted the other day at Dr. Joseph Le Conte's. It is certainly one of the most satisfactory I have seen, whatever blend it may be, and if you can duplicate it I would like to get my next invoice of table wine of that batch."

Regarding the danger of the acidification of the fermenting grape juice it is certainly not greater under the so-called "Morel process," than under any other process of fermenting in uncovered tanks.

In fact it is less. For, the large and unfilled space remaining in the tanks filled with unstemmed and uncrushed grapes after the crushing by stirrers is completed, favors the formation and continuance of a protecting covering of carbonic acid gas, which, being left undisturbed by currents of air, will prevent the acidification of the fermenting mass as effectually as any wooden cover would.

In conclusion, I would say, that while I myself am in favor of the so-called "Morel process," if practiced according to scientific principles, I would not recommend its general adoption, for the reason that it requires great care and professional knowledge on the part of the winemaker, to balance the increased cost of manufacture by the superiority of the wine produced.

Yours respectfully,
W. SCHEFFLER.

Edge Hill Vineyard, St. Helena, Cal.,
July 13, 1885.

OLIVES. OLIVES.

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An Experiment in Grafting.

The following letter to the State Viticultural Commission is of interest to all grape growers:

To the Viticultural Commission: DEAR SIRS—The books which you were so kind to send me I received a few days since, and feel greatly indebted to you. Not long ago I witnessed together with the Horticultural Society de la Gironde, a new experiment for the care of the graft. The process is due to Mon. Ribaud, horticulturist at Lormont, on the opposite side of the Gironde from Bordeaux. The above mentioned thinks there are good chances of success in preserving the graft against many dangers which attend it. The process consists in planting long rows of grafts which are close together, and hilled up on either side in the form of a demi-circle, over which is placed *du papier gourdronée*, a light tar paper, such as is used here in putting up packages. At each end of the paper is placed a small quantity of soil to keep it in place. What are the advantages of this system? It replaces small hot-houses, which would be a much greater expense. To prevent the grass and weeds from growing. To prevent the snails from injuring them. To keep the buds in a sort of dwarfed state, thereby rendering it more certain of success when fine weather arrives. To shelter it from the variations of the temperature, from the rain and hail. The ground under the paper is always moist, and loose, preventing a crust from forming, which in the operation of transplanting or removing is very important. In the Spring time the paper is taken off, and the graft is exposed to the rays of the sun. Experience will show whether this operation will carry out its intended effects.

Yours very respectfully,
CHARLES W. SUTRO,
Bordeaux, June 14, 1885.



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FRIDAY.....JULY 17, 1885

A Passing Glance.

It is a year to day since there was a change in the proprietorship of the MERCHANT. We have had our pleasures and troubles though the latter have, in our opinion, predominated. We have been defrauded by some of the class of newspaper loafers who obtain money under false pretenses, one even going to the extent of committing forgery. We have had hard work but we like it. Our chief regret is that we have not been able to spare more time to visit the vineyards and country districts personally and thus become better acquainted with our subscribers. We have endeavored to give them a good and instructive paper, and, of course, propose to continue in this direction. We have doubled our subscription list in the year and hope to keep on doubling it. We have probably made one or two enemies; but every newspaper does that, for there are always to be found a few cranks who think they own every paper they read whether they subscribe to it or not. If there are any more growlers from whom we have not yet heard let them come along. We want to begin our second year of the MERCHANT by wiping off all old scores. This will enable us to start afresh, and, with the customary "renewed vigor," to support our supporters in California—the grape growers, raisin makers and wine makers.

GLEN ELLEN.

Advices to the MERCHANT from Glen Ellen report the grape prospects generally as very light. The Gutedels on one place are lighter than ever seen and the Chanchés are very poor. French vines, on the other hand, are doing splendidly, especially the St. Macaire, Tannats, Sirrahs, Pinots, Gamais and Gros Manein. The Semillon and Cabernet Sauvignon also have fair crops. The Gamai Teinturier and the Pinot de Thomery began to color last week or just a month ahead of last season when they began coloring on August 11th, so that the season will be a very early one. The indications are that the berries will be small.

WINE CONSUMPTION.

We reproduce, in this issue, an article from *Bradstreet's* on the "Foreign Wine Trade and Consumption of the United States." The period reviewed extends over ten years, during which we consumed 53,561,148 gallons of foreign wines, of the value of \$56,315,633. This was at the rate of a pint of imported wine per capita, of the value of ten cents, per annum. In 1880 the production of wines in the United States was 21,500,000 gallons; for 1884 it is safe to place the figures at 25,000,000, and that is a very low estimate. The annual *per capita* consumption of wines in this country is .71 gallon. Allowing for our pint bottle of imported wine, we must consume with our present population at least 25,000,000 gallons of domestic wines, or, in other words, every gallon that is made. *And there will not be a single gallon for export.* How is it then, that there is such a hue and cry about over-production, and no market for our wines. The statistics are correct and have been compiled by *Bradstreet's* from a reliable source. The only conclusion to be drawn is that there must be a frightful amount of adulteration both in the imported and domestic wines before they are sold to the consumers, and that there must be an enormous quantity of compounds placed on the market which have no sign of wine in them. If such is not the case then the over-production cry is false. But there is a surplus of domestic wines in California alone, consequently we are forced to the conclusion that doctoring, compounding and adulteration is carried on to an alarming extent. This is what the wine makers must fight against and expose. It is not only deliberate roguery, but it also damages the interests of the thousands of people engaged in the viticultural industry of California. This pernicious system of swindling robs them and lightens their pockets. It injures the health of the consumers and damns the whole State of California.

The statistics published by *Bradstreet's* show that our average annual importation of foreign wines is over five and one-half million gallons, and that there has been but little change in the annual receipts for the ten years. The increased population in this period might reasonably cause an increase in consumption, but we may hope that this has been in the line of our domestic wines. A most notable point disclosed by our contemporary is that the importations of wines in bulk is 450 per cent larger than that in bottles, while the price of the former is 54 cents a gallon as against \$3.22 per gallon for the latter. What a magnificent field is here open for the wine dealer and bottler to manipulate the bulk goods. Water is cheap, and its addition, if judiciously applied, will make a less intoxicating drink. So far, he may consider the general health of the community. At the same time by necessary computation his pocket is affected, it becomes heavier and more bulky, which he may consider a reasonable offset to the general improved moral and unintoxicating tone of the people. There is another point to which we will briefly refer. The consumption of beer in the United States is ten gallons per capita per annum, against seven-tenths of a gallon of wine. This gives an annual consumption of 500,000,000 gallons of beer most of which is drunk between meals. This industry has been gradually worked up to such enormous proportions, so why should

not the consumption of wine attain such a degree of success. Wine being a table drink it is but reasonable to presume that it will ultimately be used to a greater extent even than beer, as it will be consumed both between and at meals, whereas beer is mainly consumed, in this country, between meals.

In conclusion, to show where we believe most of the wine manipulation is practiced, we publish the following New York document, which appears in the "Report of the Third Annual State Viticultural Convention." Thus:

The communication is printed in New York, it was formerly issued from 35 City Hall Place, New York, but now at 241 East Seventy-two street, under date of July 1, 1884.

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In order to meet a long needed necessity we have established an Institute of Technical Chemistry, the object of which will be to instruct pupils in the art of manufacturing wines, liquors, brandies, etc., of all kinds by chemical process at little cost.

A thorough theoretical knowledge of chemistry and a large practical experience of many years enables us to assure success to our pupils.

We do not deem it necessary to point out the manifold and profitable advantages that must accrue to those interested from a thorough mastery of the art of cheap and harmless liquor-production, these are too well known and too generally conceded; but simply call attention to the fact that this Institution will instruct its pupils in all its lucrative branches both practically and theoretically.

Strict confidence may be relied upon.

COURSE OF INSTRUCTION.

1. The production of artificial wines, viz: California Rhine wine, 12 cents per gallon, Claret, Port, Sherry, Moscatel, etc., with or without fermentation or the use of costly apparatus in a short space of time.
2. All kinds of extracts, wine flavors and essences by an easy and rapid method.
3. Treatment of natural wines by the famous Gallizing process, its increase, etc.
4. The treatment of tarnished or sour wines, and restoration to their original taste and piquancy, removal of barrel flavor, etc.
5. The clearing of wines by rapid methods avoiding the costly and injurious practice of filtration.
6. The analyzing of wines for determining their proportion of alcohol and acid.
7. The manufacture and treatment of all kinds of spirituous liquors.
8. The production of the fundamental essences and extracts for liquors; 70 cents per pound.

Our friends in the East frequently complain of the quality of California wines shipped to them, so let them first root up this factory for the production of artificial California Rhine Wine at 12 cents a gallon, that is at their own doors. This would do much for the honest, legitimate and laudable enterprise of California, though it would no doubt affect to a considerable extent, the bottling, labeling and doctoring of the Eastern manipulators.

CHARLES KRUG.

The MERCHANT is pleased to learn that there is every prospect of a very satisfactory settlement of Mr. Krug's unfortunate financial troubles. Sixty creditors, who met at his vineyard on 11th inst., all agreed to the propositions placed before them. Two trustees, Messrs. S. Ewer and S. B. Carver, bankers of St. Helena, were appointed to assist Mr. Krug in the management of his affairs. The meeting of creditors was exceedingly pleasant, the greatest regret being expressed for the cause that had compelled them to meet together.

HAWAIIAN TRADE AND INDUSTRY.

Incomplete statistics of exports and imports for the June quarter, 1885, have been published at Honolulu by the P. C. Advertiser. The figures are, however, approximately correct, and err only in being too low. Taking the figures, however, as they stand, we find that the domestic exports at Honolulu were as under:

March Quarter, 1885.....\$2,639,423.76
June Quarter, 1885..... 3,175,709.94

Total half year.....\$5,815,133.70

The March figures are official; those for the June period are estimated for the outports, the amounts returned for the March quarter being accepted. There will in all probability be an increase under this head.

The imports of merchandise at Honolulu for the March quarter, 1885, are set down at \$734,313.69, and for the June quarter at \$864,444.12, making a total for the half year of \$1,598,757.81. The disparity between imports and exports is very remarkable. After adding \$171,467.20 coin imported in the past half year at Honolulu, we have the following result:

Exports, domestic.....\$5,815,133.70
Imports, coin included..... 1,770,225.01

Excess of exports in half year.....\$4,044,908.69

On the old balance of trade theory the Hawaiian Islands should be eminently prosperous, their export per capita of population far exceeding that of any other country under Heaven. Yet we find that dulness covers trade with an almost unbearable pressure, and that a portion of the Honolulu press does not see any way out of it except by a change of Administration, which of course is simply absurd. The trouble lies with the people themselves and their absurd attempt to establish a gold standard without gold, as a writer in *Bradstreet's* recently pointed out. If men of capital on the Hawaiian Islands generally would follow the example of Colonel Spreckels, Wm. G. Irwin & Co., and Mr. James Campbell, there would be a different note sounded, and progress would be the word, but they are not disposed to do so as a rule, hence an abnormal condition of business depression in the midst of industrial progress and prosperity.

Our advices from the Islands agree in describing the season's output of sugar at a figure considerably in excess of the estimated yield. The recent advance in raw sugars had a stimulating effect. The outlook is very promising for next season's crop. The weather everywhere was favorable, and the cane invariably looked well. The coming harvest promises to be exceedingly good for sugar planters.

The Chaintre System of Pruning.

The first bearing vineyard in California, that has been pruned by the Chaintre system, is that of Mr. Clarence Wetmore at Livermore. He has forty acres of four-year-old Charbonos and Zinfandels that have been pruned after this system that are now bearing, and bearing well. The vines are loaded with fruit which is well set and it is estimated that most of them will produce from 30 to 40 pounds of grapes. Other varieties of Charbono on the same vineyard and on other places in the same locality, that have been pruned short, are bearing little or nothing. The success of the Chaintre system has already attracted the attention of grape growers who visited Mr. Clarence Wetmore on Sunday, by the dozen, in order to see for themselves the success of which they had heard so much.

CALIFORNIA WINES.

THE SHIPMENTS BY RAIL AND SEA FOR FIVE AND SIX MONTHS.

An Increased Export Trade—Carefully Compiled Statistics—Not Such a Gloomy Outlook.

THE MERCHANT gives to-day the shipments of California wines by sea for the month of June 1885. The total aggregates 96,911 gallons of the value of \$50,744, a decrease of nearly 10,000 gallons as compared with the shipments for May. The decline in the Panama line of steamers trade continues while that by other sea routes is steadily increasing. It is probable that the overland shipments for the last three months will, as was the case during the first quarter of this year, bring the aggregate considerably above our export trade of last year. The figures for June, sea shipments, stand thus:

BY SEA, JUNE 1885.

To—	Gallons.	Value.
Mexico.....	8,183	\$3,653
New York.....	6,735	4,405
Hawaiian Islands.....	1,254	958
Altata.....	781	549
Japan.....	668	447
Tahiti.....	591	349
Victoria, B. C.....	237	231
China.....	207	216
Mazatlan.....	132	90
	18,788	\$10,898
By Panama line of steamers..	78,123	\$39,846
Total.....	96,911	\$50,744

WINE SHIPMENTS BY RAIL.

The returns for the April and May shipments of wines to Eastern points, by rail, having been received we present them as follows:

BY RAIL—APRIL.

FROM.	Northern Route.	Southern Route.	Total No. of gallons.
San Francisco.....	13,058	180,977	194,035
Los Angeles.....	11,013	68,949	79,962
Sacramento.....	7,033	11,632	18,665
Marysville.....	7,087	513	7,600
San Jose.....	519	2,411	2,930
Stockton.....	655	1,970	2,625
Totals.....	39,365	266,452	305,817

BY RAIL—MAY.

FROM.	Northern Route.	Southern Route.	Total No. of gallons.
San Francisco.....	39,694	160,140	199,834
Los Angeles.....	6,524	37,957	44,481
Sacramento.....	5,615	21,818	27,433
Stockton.....	5,297	590	5,887
San Jose.....	254	5,457	5,711
Totals.....	57,384	225,962	283,346

The average monthly overland shipments for the first quarter of this year were 260,518 gallons, and for the year 1884 the average monthly overland shipments were 157,280 gallons. It will thus be seen that the overland shipments for April almost doubled the monthly average of last year and exceeded the average for this year by 40,000 gallons. The April shipments overland were 223 per cent larger than those for January, 131 per cent larger than those for February but 70 per cent less than those for March. The May overland export trade shows an increase of 125,000 gallons over last year's average monthly shipments, a gain over the January and February returns for the present year but a decline as compared with the March and April shipments. The rail shipments for the first five months of this year stand thus:

Month—	Gallons.
January.....	137,543
February.....	209,393
March.....	434,617
April.....	305,817
May.....	283,346
Total.....	1,370,716
Same period 1884.....	920,796
Increase in 5.....	449,920

Comparing the overland shipments of the two years, for the five months, it will be seen that there is a balance of export trade in favor of the present year of nearly 450,000 gallons. To make the comparison, for the period under review, more perfect we present the shipments by rail and sea combined for the five months of 1884 and 1885. Thus:

FIVE MONTHS TO MAY 31.

Year.	By Rail.	By Sea.	Totals.
1885.....	1,370,716	499,221	1,869,937
1884.....	920,796	661,687	1,522,393

Increase to April 30, 1885..... 347,544

With this showing for four months we can safely estimate upon an increased export trade in California wines of 700,000 gallons more than last year. The estimate of the vintage of 1884 was 15,000,000 gallons which it is probable was over the mark. It must be remembered that the figures presented by the MERCHANT do not include any shipments of brandy and an allowance of a million gallons of wine must be made for the manufacture of that article of consumption. There was no cry of over-production or surplus stock until the last vintage; we will increase our exports this year by 1/4 of a million gallons besides the increase in consumption in the State of California; the vintage of 1885 will not be as large as that of 1884; therefore why should there be this continuous attempt to depreciate values and force sales? We await an explanation supported by reliable facts and figures. We believe that the wine makers, who can hold their wines, will within a year largely reap the benefit of their foresight.

SIX MONTHS' SEA SHIPMENTS.

To conclude our available statistics up to the present time we now present the shipments of California wines by sea for the half-year ending June 30th, comparing them with shipments for a similar period in 1884. Thus:

HALF YEAR ENDING JUNE 30

	Gallons.
1884.	636,335
By Panama steamers.....	53,001
By other routes.....	583,334
Total number of gallons.....	689,336
1885.	554,894
By Panama steamers.....	42,233
By other routes.....	512,661
Total number of gallons.....	597,127

This table of sea shipments shows a loss, in round numbers, of 90,000 gallons in our wine trade for this year of which over 80,000 gallons is in shipments made by the Panama line of steamers. This loss however is far more than compensated for by the increased overland shipments. With further reduced rates of overland transportation freights the Panama shipments would be reduced to a minimum, because it is to the interest of both buyer and seller to ship by the quickest possible route compatible with a comparatively reasonable increase in cost. We trust that the wine makers of California after perusing carefully the figures presented to them to-day by the MERCHANT will come to the conclusion that their horizon is not as dark as has been, in some quarters, previously depicted.

Sig. Gabriele Rosa, publishes the following statistics of consumption of beer and wine per capita per year, in the following countries:

	BEER.	Litres.	WINE.	Litres.
Belgium.....		169	France.....	119
England.....		144	England.....	2.09
Germany.....		100	United States.....	2.64

A POSSIBLE REVOLUTION IN THE WINE TRADE.

Among the experiments to be made by the State Viticultural Commission is the drying at a low degree of temperature, of the skins of black grapes in order to test whether, after the juice is condensed, it can subsequently, with the use of water, be fermented on dried skins so as to produce red wines. To determine the commercial value of such a product, samples of condensed Zinfandel and other musts, with dried skins will be forwarded to France; the market value will be thus determined in advance of another vintage. Another important point to determine is the value of such condensed must in increasing the saccharine of grapes used in making sweet wines where a large expense is involved in the use of distilled spirits which are added to check fermentation, in order to preserve sufficient sweetness in the wine.

By increasing the sweetness of the must, by condensing part of it, wine may be allowed to ferment as much as possible thereby reducing the quantity of spirit that must be added to preserve the wine. The practice of condensing must so that it can be transported and preserved at pleasure, to be fermented wherever required with the addition of water, has been started within the last few years but has not attracted public notice owing to the fact that there has been no surplussage of cheap grapes in Europe to tempt any one to enter into the business. Special machinery for reducing must in the vacuum at a very small cost has been invented, and is now controlled under different patents, the merits of which the Commission intends to thoroughly investigate. The party to experiment with grapes near Folsom, this year, will use an apparatus patented last year, and invented in Ohio, originally for the purpose of reducing cane juice. He states that the cost of reduction will not exceed half a cent a gallon.

Since their first announcement last week, the Commission has received calls from different persons who appreciate the importance of the idea. One of them, who has in his possession in this city a complete apparatus intended for reducing cane syrup for sugar purposes, intends to investigate the question as to whether his apparatus of ordinary vacuum pans cannot be used for condensing grape juice. A party in London, now engaged in winemaking from condensed grape juice, has been addressed by the Commission with a view to learning the merits of the system. If it should be proved practical and economical to apply this system to a portion of the grape products of this State, it would have a tendency to relieve our wine makers from the use of a large portion of inferior qualities of grapes and to confine winemaking here, more or less, to the production of the highest grades, the value of which will be such, after maturity, as to enable them to bear the cost of transportation against the decreased cost of handling condensed musts.

It is even possible that, by the use of condensed musts which can be transported at any time of the year and under any conditions of climate, winemaking, and consequently wine consumption, can be extended into all parts of the world where grapes are seldom seen and where wine is a high-priced luxury on account of excessive cost of transportation and care in treatment and handling. For instance, the grapes of California, reduced in this way, might be placed in London or St. Petersburg with profit to

our producers, so that wine could be there produced at a cost not exceeding 25 to 30 cents a gallon. If such a revolution can be effected, it is easy to see that the habit of wine consumption might become worldwide, limited only to the capacity of countries like California, in producing the raw material.

A Short Crop.

The grape crop of California for 1885 will be a short one. Twelve months ago it was estimated that this year's vintage would be 25,000,000 gallons of wine. Statements have now been made that it will not exceed that of last year, viz: 15,000,000 gallons. We do not believe that last year's vintage reached that amount any more than we believe that the coming one will. Our estimate of this season's wine product is from 10,000,000 to 12,500,000 gallons, certainly not more than the latter figure. Our reasons are based upon the results of special private inquiry throughout the State. The frosts this season have effected material damage notwithstanding all assertions to the contrary. It is to the interests of the country papers to "boom" their special districts, and conceal all or any defects. Vineyardists have been to the MERCHANT office and told us that our previous statements as to the estimated damage from frost were correct, but they begged us not to mention their names as it would hurt the locality. We have received letters to the same effect. Since the frost the berries have been dropping from the effects of conlure, and we have positive statements, from certain sections, of prospects only of a third and even a fifth of a crop.

There is no use in concealing these facts. On the contrary, it is beneficial both to the grape growers and wine makers that they should be known as widely as possible. The former will obtain a fair market price for their grapes and the latter for their wines. Values have been depreciated within the past six months, and of course there are some who are interested in still further depressing the wine market. We have been told by a San Francisco wine dealer that we were doing wrong in advising the makers to hold their wines, that prices would drop still lower before the end of the year. Suppose they do. When the new wine is made it cannot be used at once. The dealers must have some wines that are at least a year old, and then those who have been able to hold, and who have experienced trouble, annoyance and inconvenience from doing so, should reap their harvest. We will have an early vintage, and, from present appearances, a much superior quality of wines than last year. But the crop will be short, very short of the original estimate.

We find, however, in H. Goeth's *Am pelographic Dictionary*, under the head of *Persan*, blue winegrape, Savoy: according to Pulliat vignoble, 1876, with plate synonyms: Prinsan, Prinssens, Becou, Beccuette, Etris, Pressan, Etraire, Batarde, Aguzelle: Leaf, middling; size, very little lobed, nearly round; at the reverse, somewhat woolly. Grape, of middle size, pyramidal, tight; berry, middle size, oval, blue.

The Society of Agriculturists of France has offered a premium for the best remedy to extirpate *Pernospiera viticola*. Up to the end of December, 1885, the society awaits the letters of concurrents for this prize.

THE "CHRONICLE'S" CROW AND WHAT IT AMOUNTS TO.

The MERCHANT has hitherto remained silent concerning the little difficulty that occurred between Adolph Spreckels and M. De Young. The case has been patiently heard, argued and tried and a verdict has been recorded in favor of the defendant Spreckels. We confess that this was a surprise to us as we had anticipated a disagreement on the part of the jury. The *Chronicle* together with a minority of the country press of California is indulging in a great tirade of abuse against the defendant, his father and their influential position insinuating that the jury had been bought or that the wealth of the Spreckels family was such that no legal justice could be expected in a case with which they were connected. We think differently. The jury gave no reason on which they based their verdict; therefore we have come to the conclusion that, after hearing all the evidence on both sides, they were of opinion that the *Chronicle* in its prolonged and unceasing attacks upon the Spreckels was unjustified in such a course and unwarranted by facts. That the family had been remorselessly assailed and for no good cause. That a remonstrance from the Spreckels was natural, that De Young did carry a pistol and that he made a motion to use it when shot by the defendant in the case.

To take a calm view of the *Chronicle's* constant charges against the Hawaiian Treaty and the Spreckels family what does it amount to? A continued persecution because, by enterprise, foresight, clear-headed business faculties, they had the courage and pluck to engage in an honorable pursuit which might have been a losing investment or might have ruined them. Would not the *Chronicle* enjoy and hold a monopoly of the newspaper business—if it could? Would not any merchant in this city now be glad to stand in the position of the Spreckels family, a position which they have won by venturesome and honorable dealings? That the Hawaiian Treaty has been a benefit to this Coast was recently conceded by the petition of over a hundred of our leading merchants, that was telegraphed to Senator Miller when in Washington. Colonel Spreckels is a man of his word. He will always do what he says. We have never known or heard of a single instance, in which he has ever failed to perform a promise. On the contrary, we have frequently heard of his extending his obligations and doing far more than he has promised. It is the same with his sons who, one and all, follow in the honorable footsteps of their father. We have never seen, known or heard of any family in which the ties between father and sons, or between brothers, has been so affectionate, so firmly established or of such a character as could be advantageously imitated by others.

It has been stated that a man who conducts a public newspaper is deserving of commendation and reward instead of condemnation and punishment. This depends entirely upon the man and the manner in which he conducts his paper. If he is a persistent liar, blackmailer and perverter of facts, in order to subserve his own selfish pecuniary and malignant purposes, then he is deserving of condemnation and punishment. He knows that he lies and he knows what is his purpose in so doing, consequently he should be prepared to take his life in his hand—because he knows he merits any

punishment that may be inflicted upon him. Fortunately for California, and the reputation of the press generally, there are more editors who do not uphold De Young and his tactics than he has supporters. When an editor or owner of a paper is a gentleman he will not degrade himself to such an extent as to merit castigation from any hands. Fortunately there are gentlemen who conduct newspapers and criticize legitimately and honestly for the public weal. Unfortunately there are some who try to hound to the death from other motives. It is easy to talk of libel suits against such vermin but the law of libel is a difficult one through which to obtain just and merited satisfaction. The *Chronicle* has, for years, been persecuting the Spreckels family with willful and malicious falsehoods. This resulted in an unfortunate shooting affray which terminated, not in a trial of Spreckels but in a trial of the *Chronicle* which was found guilty.

The writer is well informed personally of the charges that have been made against the Treaty and against the Spreckels. Take, for instance, one of them, viz: the Slavery Question. Colonel Spreckels does not employ men, even Chinamen, on the contract system. He objects on principle to doing so. On the plantations in which he is interested the laborers are engaged by the month, free to come and go as they please. Again, this cry of attempted injuries to German laborers. We assert, from our personal knowledge, that Germans as a rule are not the best class of labor engaged on the Islands. The *Chronicle* gets a few discharged loafers and malcontents, interviews them and publishes their unsubstantiated assertions. In every class of labor, from the highest to the lowest, there will be found those who have some grudge or rancorous feeling against their employers or against the place which has provided them with food, clothing and shelter when they would have starved, from pure laziness, elsewhere. Such has been the case with many of the German laborers on the Hawaiian Islands. They were gathered from sea port towns, entirely ignorant of agriculture, and were taken by the planters who had to teach them the work that they had to perform. They did not like work and consequently "struck." A record of cases tried before the Honolulu Police Court Judge shows that their complaints were trivial and not substantiated by facts. An appeal to the Supreme Court of the Islands resulted in a similar decision with the further result that their own lawyer withdrew from their defense; their own Consul washed his hands of them and a general meeting of their fellow countrymen, leading citizens in Honolulu, decided that they were not worth the powder that had been wasted upon them. Of this class were the witnesses for the *Chronicle*.

But to get at facts nearer home. The *Chronicle* has been indulging in what appears to be, a great crow. It has continued its attacks on the Spreckels and has quoted, as great authorities, extracts from country papers. These extracts fill up a great deal of space and, with a display heading, make a fair amount of show. But we propose to explain clearly what this show amounts to. According to "The Pacific States Newspaper Directory," of Messrs. Palmer & Rey, there are 387 papers published in the State of California, including those of San Francisco. Of these 387 papers, the *Chronicle* has published extracts from 59. Two of the country papers have been quoted

three times and eight of them have been quoted twice. This, of course, makes a better showing, and is not noticed by the average reader who merely sees that so much space is filled by country comments. We thus come to the plain fact that only 15 per cent of the California press supports the *Chronicle* in the case under review. If the remaining 85 per cent did so, they would surely have been quoted as authorities on the matter. There have been further extracts published from papers outside of this State including the Winnemucca *Silver State*, the Roseburg *Plain Dealer*, the Western *Watchman* and other such noted journals, the fame of which has long since reached the ears of the San Franciscans. Among the California papers quoted we notice the well-known names of the Watsonville *Pajaronian*, the Biggs *Independent*, the Galt *Gazette*; the Trinity *Journal*, the Tuscarora *Review*; the Oakland *Week*, the Anderson *Enterprise*, the Saucelito *News*, the Stockton *Moverick*, the Modoc *Independent*, and the Gridley *Herald*.

To get still further into facts, what do these quoted opinions amount to? There is a lamentable absence of quotations, from the San Francisco press, in favor of the *Chronicle*, and this section of the press should certainly be better posted in the true facts and ins and outs of the case than these all-powerful country contemporaries that we have named. Let us consider other statistics in connection with the localities whence the published opinions originate. We will except San Francisco and offset the *Chronicle*, the *Argonaut*, and the California *Patron*, against the balance of the unquoted papers. This is certainly fair and in favor of the *Chronicle*. Concerning the remainder we find that there are 68 other papers published in the same towns as the 59 chosen, whose circulation amounts to less than 60,000 out of a population in California of 1,000,000. Granting that every paper quoted represents the opinions of its subscribers, we find that there are 60,000 people out of the 1,000,000 in California who approve of the *Chronicle's* actions with regard to the Spreckels family and the Hawaiian Treaty. According to the *Chronicle's* own quotations, from that section of the press of California that is in favor of its view of the little *contretemps* between its proprietor and Adolph Spreckels, only 15 per cent of the press, and 6 per cent of the population of California support the enterprising personal persecutor. An outcry has been raised concerning the publication of the speeches of Hall McAllister and Mr. Highton for the defence. It would not surprise us in the least, though it is late in the day, to see the faithful followers in the country appear with a "patent outside" summary of Mr. Campbell's speech for the prosecution. This solid substance might be lightened by a pretty picture of the prosecuting witness. We shall see. A crow is at all times considered an indelicate morsel, but the *Chronicle's* crow must be a very tough and unsavory bird to digest.

The first grapes of the season, received at the offices of the State Viticultural Commission, were three varieties of Black grapes from Mr. Arpad Haraszthy's Orleans vineyard, Cache Creek District, Yolo County.

The Santa Cruz mountains have a new vineyardist, Mr. F. Haesters, who has purchased a property there which he intends to plant with choice imported German varieties of vines.

Phylloxera in Australia.

The appearance of phylloxera in Australia has hitherto been mainly confined to the district of Geelong in Victoria where the infected vineyards were uprooted and destroyed by the Government of that Colony. It has now, according to reports just received by the MERCHANT, made its appearance among the vineyards of New South Wales and consequently, in South Australia, which is probably the largest wine producer, considerable alarm has been excited. At a meeting of those interested in viticulture, held at Adelaide, the following resolution was passed unanimously:

"That this association, recognizing the importance of the grape culture in this colony, views with alarm the outbreak and spread of phylloxera in New South Wales and urgently requests the Government to take such measures as may be necessary to prevent it from being introduced here; also that the attention of the Government be called to the fact that immense numbers of fruit trees are being introduced into the colony from Victoria and New South Wales, possibly grown in phylloxera infected districts, and we are in danger of having the pest introduced into the soil or among the roots of those trees."

It was argued, and with reason, that as nurseries exist in phylloxera infested districts whence trees and cuttings were being sent that there was the greatest possible danger of insects or their eggs being introduced in the soil or among the roots of the trees. If this be the case in Australia why should not the same danger exist from plants that are sent from the California State experimental plague spot of phylloxera at Berkeley?

A Southern Scheme.

The Los Angeles *Herald* states that "a large amount of capital will now embark in that city in the business of purchasing wine for maturing and a market. The persons that embark in this business will conduct nothing but a wholesale trade, and sell to the Eastern and foreign trade by sample. They will employ the best talent that can be obtained in America and Europe for the treatment of wines and the peculiar process of blending the same. They will be in the market for the purchase of new wines of all kinds, at all times, and keep old wines till they become completely matured. This will give the grape growers a market for their fresh juice at home and relieve each one from hiring skilled labor and the vast expense of cooperage. The members will belong to the Board of Trade, and buy and sell at that popular resort. This new feature will be an important element in the business interests of the city and county and shows the way in which Los Angeles is putting on metropolitan airs."

It is the "metropolitan airs" among San Francisco wine dealers that are so much objected to. Our contemporary does not explain the basis of the proposed trade relations between individual grape growers and the members of the Board of Trade, so that it is impossible to form an idea of the advantages to be derived by the former. If the business is to be conducted on a somewhat similar plan to the S. F. Produce Exchange the growers will get little out of it. Ask the grain growers in the country what benefits they derive from the city speculations.

This number of the MERCHANT is one of the best that has ever been published.

HAWAIIAN CONSUL-GENERAL.

The P. C. *Advertiser* of Honolulu, published a sensational notice in its official column on the 1st inst. It was the notification of the appointment of David A. McKinley, Esq., late United States Consul at Honolulu, to be Consul-General of the Hawaiian Kingdom, for California, Oregon, Nevada and Washington Territory. The announcement was delayed until the day the steamer was to sail for this Coast, and so well was the secret kept that not an inkling of it appears to have leaked out, although our private advices state that it had been arranged for some time. It was a surprise which the Government appears to have prepared for the public, and the *Advertiser's* way of commending the appointment rendered the surprise all the more complete and tantalizing. Every newspaper published in Honolulu had spoken words of kindly recognition of Mr. McKinley's services as United States Consul; they had been profuse in their *alohas*, and the *Advertiser* suggested that the appointment should be an exceedingly popular one among the business men of Honolulu, all of whom had endorsed Mr. McKinley for continuance, by the United States Government, as Consul. Having spoken of him in such unqualified terms to the Secretary of State at Washington, they should feel gratified that his valuable services had been secured for their own country.

We have only one regret in this matter, and that is the recall of Mr. H. W. Severance, for many years Hawaiian Consul at San Francisco. He is too well known to our business men to need any word of commendation from us, and we also know that our expression of regret will be echoed by all who have had trading or social relations with the Islands. But Mr. Severance shares the fate common to all public servants holding appointments subject to the will of an Administration. At the same time we must assume that the Hawaiian Government knows what is best for its own interests. In creating a Consul-Generalship for the Pacific Coast it recognizes the importance of its trade with this section of the American continent, and in appointing David A. McKinley, Esq., to that office a most excellent choice has been made. We know whereof we speak, when we say that Mr. McKinley never wearies in the performance of duty. As United States Consul at Honolulu he was always on hand for duty, no matter what hour of the night or day he might be called upon, and he was always in a fit condition to discharge his Consular functions with dignity and dispatch. We anticipate a similar record of him in his new and more dignified office of Consul-General for Hawaii at San Francisco. The MERCHANT bespeaks for him a cordial welcome from his old fellow-citizens in California.

A BOTTLE WASHER.

A Parisian, owner of one of the great eating-houses, employs a dynamo-electrical machine which crushes and pulverizes bones for purés, sieves broths, and moves a knife-cleaning machine. He also has a machine for washing plates and bottles. Three hundred rotations per minute cause each spot in a bottle to be touched 180 times by the bottle brush, in the 36 seconds needed for the purpose, fresh water being constantly supplied and 400 bottles washed in one hour;

JAPANESE TRADE AND IMMIGRATION TO HAWAII.

The Japanese steamer Yamashiro Maru arrived at Honolulu, June 17th, having 974 Japanese immigrants on board. Of these, 35 were women. Unfortunately, small-pox broke out on board, and the ship and passengers were quarantined. There were four cases, one of which terminated fatally. A fresh case had broken out at the quarantine station the day before the steamer left, but the health of the crew and cabin passengers were good, and it was expected that the vessel would be admitted to pratique July 4th.

This is the pioneer ship of what promises to be a Japanese ocean line of steamers plying between Hongkong, Yokohama, Honolulu and San Francisco. Two more Japanese steamers are under engagements for Honolulu with immigrants, the Japanese Government being favorable to the movement and desirous of establishing by subsidy their own steamship line, which should compete for the traffic now controlled by the Pacific Mail and O. & O. Companies. Whether this scheme can be carried out successfully is another matter entirely, but the project is worth noting.

The vessels which this Japan steamship company would put on the line indicated are British built, and equipped in the latest and most approved manner. Those who have been on board the Yamashiro Maru state that she is the handsomest ship of her tonnage that ever entered the port of Honolulu. Our local steamship organizations will therefore need to look to their laurels if Japan enters into competition with them for the ocean carrying trade. It is a pregnant sign of the times, however. There is certain to be a complete revolution in the ocean carrying trade of the Orient whenever Japan enters the great republic of commercial nations by adopting wholly and entirely our Western institutions and civilization. This day is not far distant. When that happens Japan will stand to Eastern Asia and the Pacific Slope in the same relation that Great Britain stands to Europe and the Atlantic Slope.

Phylloxera in Turkey.

On the Turkish Asiatic coast phylloxera has infested the vineyards. Munir Bey, Secretary-General of the Ministry of Agriculture, and Noury Bey, Sub-Director of the same Ministry, together with several inspectors at once went to the district. From Kadikien (Chalcedon) to Ismid (Nicomedia) there are numerous phylloxerated spots appearing. It is certainly a pleasant spectacle to see the Turkish Government, the dominant religion of which nation prescribes wine, care so energetically for the interests of the christian citizens who cultivate the vine in Turkey.

A telegram to the London *Standard* says: "A rather serious matter for this country is the appearance of the phylloxera in some vineyards near the capital. Recently some vines have been brought from France, and in these it is suspected the phylloxera has been imported. Ghaki Mukhtar Pacha, who has largely occupied himself with the culture of the grape, has ascertained beyond doubt that this dreaded insect is the cause of the complete withering of an entire vineyard belonging to himself. The Government, alive to the importance of the subject, have ordered a Commission to report upon the best means of stamping out the disease."

THE AMERICAN EXHIBITION IN LONDON.

The Exclusively American Exhibition of Arts, Inventions, Manufactures, Products and Resources of the United States, will be opened in London on May 1, 1886. It is a novel idea and literally bearding the British manufacturing lion in his den. The undertaking is the result of private enterprise, an association having been formed, with a limited liability capital, on a purely business footing. The site selected for the buildings is at Lillie Bridge, Kensington, extending over 22 acres and in direct railway communication, from its own station, with every line in the United Kingdom. Ten millions of people reside within an hour's travel of the site selected. To further the interests of this great American exhibition the members of the association are publishing a monthly paper, the *American Eagle*, which is circulated all over the world, setting forth the objects of the undertaking, the advantages to be derived therefrom and soliciting universal patronage and support from the inhabitants of all nations. Applications for exhibits will be received until September 30, 1885; and as more space has already been applied for than can possibly be allotted, it is intended to select only first class exhibits so that the United States may be seen at their best.

The report of the Director General of the Exhibition, John Robinson Whitley, states that "this comprehensive method of diffusing a knowledge of the vast resources of large portions of the North American continent, will most assuredly exert a marked effect upon their future relations with other countries, the future investments of European surplus capital and the trade and commerce of the United States with the Old World and its Colonies."

This is an opportunity for our raisin, wine and brandy makers to make a combined exhibit of the products from the viticultural industry in California. Our raisin makers should set aside a few boxes for this purpose from this season's pack and our wine and brandy makers should endeavor to convince the wine merchants and consumers in the United Kingdom that this State can produce articles of superior quality.

SALES OF GOOD WINES.

That the wines of Glen Ellen are appreciated is evinced by the recent purchase, by Messrs. T. & M. E. Tobin & Co., of the stocks of Mr. J. H. Drummond and Mr. James A. Shaw of Glen Ellen. These gentlemen being neighbors it is presumable that there is a similarity in the quality of their products. Mr. Drummond is noted for his excellent imported varieties of grapes, and the care and labor he bestows in experimenting with them. Messrs. Tobin & Co. are one of the very few dealers that buy cellars on their merits and pay fair value for the wine and not at the rate of ordinary wines. In this respect they are wise and will eventually reap their reward, because, handling as they do, nothing but the best wines which they sell in their pure condition, they will obtain an increased demand, and the name of the firm will become known for the superiority of their goods. It is the sale of so much inferior wine that has, to a large extent, injured the demand. We are glad to know that good wines command a good price, and hope that this may stimulate others to improvement.

Australian Viticulture.

The vintage of St. Hubert's has been magnificent, 81,000 gallons—the largest yield from any vineyard in Victoria ever cellared. Estimating the return for this quantity when matured and ready for the market at 5s per gallon all round, the vintage of 1884 will net the proprietors a handsome sum; £20,000 should leave a wide margin after paying all expenses. The produce of the Yerinberg Vineyard, on the opposite side of the Lilydale Road, it is understood, goes direct to France, as per contract for several years.—*Wynberg Times*.

The resources, climate, progress and outlook of Los Angeles city and county is the title of a pamphlet published by the Los Angeles Board of Trade. It statistically shows the advancement of Los Angeles and deals carefully with the subjects set forth, especially the cost and profits of fruit culture and the advantages of the county as a place of settlement.

A gentleman up Sacramento way, who experimented with the arsenic remedy, reports that an examination of his vineyard, on the morning after the bait had been placed, disclosed a dozen dead—not grasshoppers—but chickens. There is no doubt whatever, in his mind, as to the efficacy of arsenic as a slaughtering agent.

The Spanish Government is active in suppressing, by high fines, the fraud of artificial coloring of wines, an industry which of late seems to have begun in Catalonia. Thirty pipes of wine from that province, colored by fuchsine, were confiscated at Bordeaux.

At the agricultural regional gathering at Angers, France, a few weeks ago, the highest premium for the best red wines of the district was accorded to an 1884 of the Cabernet Sauvignon grape, and the second premium to an 1884 of the Cabernet Franc grape.

The arsenic treatment for grasshoppers has caused such a demand for that now necessary vineyard commodity, that it has jumped from 6 cents to 10c. @ 15c. There is a marked decline, however, in the jump of the grasshopper.

The ship Crown of Denmark, that sailed last month, from San Francisco to Liverpool, carried 4,523 gallons of California wine, valued at \$2,922. It was nearly all shipped by Hausman, Kufeke & Co., of California street.

A barrel of wine was shipped on June 1st, by the San Juan, to Portland, Maine. This is a step in the right direction. Though they mayn't drink it now, we hope that California wine will soon become their main drink.

Preparations for the Mechanics' Institute Fair, to be held in San Francisco next month, are rapidly progressing. It is anticipated that the exhibits of viticultural products will far exceed those at any previous Fair.

The New Zealand Government propose an increase of 6 pence to the duty on each gallon of wine and spirits imported into that Colony.

Some interesting matter is unavoidably held over.

FOREIGN WINE TRADE AND CONSUMPTION.

[Bradstreets, June 27th.]

The increased attention paid to the cultivation of the vine, and the manufacture of wine in the United States, and more especially in California, becomes daily more marked. A careful study of statistics as to our importations and consumption of foreign wines, and the health of the wine-drinking communities of France, as prepared by Bradstreet's, will be found of considerable interest.

Our compilations have been made from the statistical reports of Mr. Joseph Nimmo, Jr., extending over a period of ten years. The first table shows the imports of foreign wines into the United States, in bulk and in bottles, with the value of each, from July 1, 1874, to June 30, 1884. The figures stand thus:

Table with columns: Year ending June 30, Imports of Foreign Wines from July 1, 1874, to June 30, 1884. Sub-columns: In casks, Gallons, Value, In bottles, Gallons, Value. Totals: 45,420,823 casks, \$24,890,746 value; 10,356,092 bottles, \$83,351,020 value.

Summarizing the above table we get the following aggregate imports of foreign wines for the ten years. Thus:

Table showing Total Imports of Foreign Wines from July 1, 1874, to June 30, 1884. Columns: Years, Gallons, Value. Totals: 55,783,785 gallons, \$58,251,766 value.

These figures give an average annual import trade in foreign wines of 5,558,378 1/2 gallons of the value of \$5,825,176.60. It will be noticed that the imports of wines for the period ending June 30, 1883, shows an increase of 3,888,442 gallons of the value of \$4,318,793 over the imports for the following year.

porters naturally increased their stocks at a tax of 71.22 per cent ad valorem in preference to paying 93.98 per cent. It is problematical, however, whether the consumer derived the benefit, the difference in duty doubtless being pocketed by the importer, while increasing his prices proportionately from the time of the first intimation of any increase in duties.

To arrive at the consumption during the ten years under review we must first deduct the quantity exported which stands thus:

Table showing Exports of Foreign Wines from July 1, 1874, to June 30, 1884. Columns: Year ending June 30, Casks, Gallons, Bottles, Gallons, Total, Casks, Value, Bottles, Value. Totals: 993,921 casks, 1,287,803 gallons, 298,882 bottles, 76,849 gallons, \$470,784 value.

This table shows an average annual export trade in foreign wines for the decade of 128,780 3-10 gallons valued at \$105,787.60. The quantity exported in bulk, compared with that imported, stands in the ratio of 1 to 45, and of case goods it is in the proportion of 1 to 35. We import 450 per cent more wine in bulk than we do in bottles. The average cost of the former is 54 cents per gallon, while the average price of the case goods is \$3.22 per gallon.

The following table shows the quantity of foreign wines remaining in the United States for the ten years. Thus:

Table showing Ten Years, Ending June 30, 1884. Columns: Imports, Exports, Balance. Totals: 55,783,785 gallons, \$58,251,766 value; 1,287,803 gallons, \$1,057,876 value; Balance: 54,495,982 gallons, \$57,193,890 value.

To attain the actual consumption we must deduct the quantity remaining in warehouses on June 30, 1884, which was as follows:

Table showing Ten Years Ending June 30, 1884. Columns: In casks, Gallons, Value; In bottles, Gallons, Value. Totals: 934,834 gallons, \$878,257 value.

We now obtain the actual quantity consumed and its value. Thus:

Table showing Ten Years Ending June 30, 1884. Columns: Gallons, Value. Totals: 53,561,148 gallons, \$56,315,033 value.

Estimating the average population of the United States during the same period at 45,000,000 people, we find that the average consumption of foreign wines in this

country was about 1 1/2 gallons per capita in the ten years, of the value of rather more than \$1 per capita. This represents an annual per capita consumption of a trifle over a pint of wine of the value of 10 cents. Our consumption of beer, however, is ten gallons per capita per annum. The annual consumption of wine per capita in different countries is as follows:

Table showing Annual Consumption of wine per capita by country. Columns: Country, Gallons per capita. Includes France (30), Switzerland (11.25), River Plate Republics (11), Austria-Hungary (5.50), Germany (1.50), Belgium (.92), U.S. of America (.71), Holland (.65), Great Britain (.50).

This table shows that the United States consumed only seven-tenths of a gallon of wine per capita per annum, one-eighth of which is imported. We therefore must now consume rather more than one-half gallon per capita of domestic wines, or, averaging our population at the present time at 50,000,000 of people, a total annual consumption of 25,000,000 gallons of domestic wines.

In France, the great wine-producing country of the world, it has been clearly proven by statistics that the consumption of spirits decreases as the consumption of wine increases; further that there is less crime, insanity or drunkenness in the chief wine-consuming districts. The total area planted in vines in France is 6,500,000—more than half the total vineyard area of the world. The gross product of the French vineyards is nearly \$400,000,000. France and California are similar in respect to extent of territory and agricultural resources, although the area available for viticulture in this State is much greater than that of France.

The industry is yet in its infancy, but there is no reason why we may not safely anticipate its steady growth. With a consumption of only ten gallons of wine per capita per annum—one-third of that of France—California alone will be able to dispose of 10,000,000 gallons. The people must gradually be educated to a taste for the pure products of their own country.



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HIGHEST AWARDS

—AT THE— New Orleans Exposition —TO THE— ANTISELL PIANOS —OF— SAN FRANCISCO, CAL.

IT WILL INTEREST THE MUSICAL PUBLIC AND persons interested in the purchase of Pianos read the following Jury's award and congratulation the United States Commissioners at the New Orleans Exposition to the T. M. Antisell Piano Company of San Francisco, Cal:

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION. NEW ORLEANS, May 20, 1885. MESSRS. T. M. ANTISELL PIANO CO.—GENTLEMEN: At the closing of the World's Industrial and Cotton Centennial Exposition, allow us to congratulate you on your success in being awarded the highest award of merit for your Pianos over all American foreign exhibitors and competitors.

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION. NEW ORLEANS.

JURY REPORT Application No. Spectator Group. Class. COMPETITION.

The undersigned jurors in the above entitled exhibit having carefully examined the exhibit made by the ANTISELL PIANO COMPANY OF SAN FRANCISCO, CAL., and all competing exhibits, concur in recommending the award of a FIRST-CLASS MEDAL AND DIPLOMA, THE HIGHEST AWARD OF MERIT FOR PIANO EXHIBIT FOR STRENGTH, DURABILITY, EXCELLENCE OF TONE, AND FOR THE SUPERIOR QUALITY OF LUMBER USED IN THE CONSTRUCTION.

Dated this 27th day of May, 1885. JAS. C. TRUMAN, FRANK BACON, GEO. L. SHROUP. Jurors.

It will be observed that the President of the United States Board of Commissioners, Governor Bacon of Kansas, was also a member of the jury that gave the Antisell piano award; also Colonel Truman of New York and Colonel Shroup of Idaho. These gentlemen not only signed our jury report, but also the special mention. We thus give positive proof of our victory. Four other awards are claimed by piano manufacturers, but we have never seen any evidence of their merits, not even to the value of a leather medal, simply their own assertion. False telegrams and publications from New York won't humbug Californians. It won't do to say that the Antisell pianos were entered for exhibition or competition. No piano could be got into the exhibition unless regularly entered. New York manufacturers are trying to break down our awards, as they don't like to see San Francisco carry off the honors.

T. M. Antisell Piano Co. 24 to 28 ELLIS ST., S. F.

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Recognition.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.

Proprietor S. F. MERCHANT. — Dear Sir: Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.

Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural interests in the State, an exponent of their views and able advocate of their interests, and, moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished. Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandise who wish to call our attention to their goods, bid us and other Viticulturalists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.

Be it further resolved that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.

C. F. RIGGS, SECRETARY.

Please notify this office of an irregularity in receiving the MERCHANT.

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OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO.'S STR. SAN JUAN, JULY 1, 1885.

TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS.	VALUE.
E B & J, New York	Lachman & Jacobi	50 barrels Wine	2385	\$ 94.9
F A, New York	"	25 barrels Wine	1236	49.4
A, in diamond, New York	"	12 barrels Wine	591	26.0
J B, New York	"	25 barrels Wine	1238	52.6
L D, New York	"	5 barrels Wine	247	10.8
B, in diamond, Philadelphia	J Gundlach & Co	10 barrels Wine	471	32.0
A V Co., New York	Walter, Schilling & Co	30 barrels Wine	1521	76.0
P Amanet, New York	"	15 Larrels Wine	777	31.0
C Naumburg, New York	"	1 cask Wine	62	4.6
V F, Philadelphia	"	16 barrels Wine	840	42.0
T M, Boston	Dresel & Co	5 barrels Wine	248	14.1
Union Stove Works, New York	P G Sabatie & Co	10 cases Wine	50	4.0
J, in triangle, New York	Kohler & Frohling	35 barrels Wine	1722	112.0
K & F, New York	"	113 barrels Wine	5512	295.0
T, in triangle, Albany	"	10 barrels Wine	488	32.0
B, in circle, New York	S Lachman & Co	1 keg Wine	20	2.0
"	"	1 case Wine	5	7
F, in diamond, New York	"	25 barrels Wine	1195	48.0
G, in diamond, New York	"	20 barrels Wine	950	40.4
B, in circle, New York	"	2 barrels Wine	95	7.1
"	"	2 cases Wine	10	1.8
B, in diamond, New York	"	6 puncheons Wine	1105	52.7
"	"	1/2 puncheon Wine		
J H Davis, Portland, Maine	"	1 barrel Wine	47	3.8
B D & Co., New York	B Dreyfus & Co	225 barrels Wine	10425	480.0
S Bros., New York	"	25 barrels Wine	1233	55.0
L S, New York	"	50 barrels Wine	2454	125.0
G J P, New York	"	6 barrels Wine	293	22.5
Total amount of Wine			36226	\$1716.0

TO CENTRAL AMERICA.

C Pinto, Punta Arenas	Bingham & Pisto	1 keg Wine	27	2.0
M B, Champerico	Fredericksburg B. Co.	2 boxes Wine	21	2.1
"	"	2 boxes Wine	12	1.2
T A R, La Libertad	John T Wright	1 case Wine	5	4
J G B, Punta Arenas	Williams, Dimond & Co	11 packages Wine	49	4.9
J O, Punta Arenas	Montelegr & Co	1 barrel Wine	52	39
A R & Co., San Jose de G'mala	A Rosenthal & Co	3 half barrels Wine	76	4.6
"	"	0 kegs Wine	96	8.2
"	"	2 cases Brandy	11	1.1
"	"	10 packages Whiskey	172	17.2
H & C, San Jose de Guatemala	Wilmerding & Co	4 barrels Whiskey	48	1.55
H & Co.	Parrott & Co	25 packages Whiskey	312	3.12
O K, Champerico	Eugene de Sabla & Co	4 barrels Wine	100	4.1
W J R, San Jose de Guatemala	"	8 cases Wine	40	2.4
"	"	2 cases Whiskey	17	1.7
F B, Champerico	Wilmerding & Co	5 packages Whiskey	24	7.0
"	"	16 cases Wine	50	4.0
C de L P, San Jose de G'mala	Urruela & Urioste	4 cases Wine	20	1.6
A Z, Champerico	"	12 cases Wine	60	4.2
"	"	1 case Whiskey	9	9
"	"	2 cases Wine	10	6
Total amount of Wine, 15 packages			530	\$14.8
Total amount of Brandy, 2 cases and				11
Total amount of Whiskey, 38 packages and			72	7.35

TO GERMANY.

Mrs J May, Hamburg	Livingston & Co	5 cases Wine	12	5.0
K & K, Hamburg	Wm Hoelscher & Co	1 barrel Wine	47	4.8
Total amount of Wine			59	\$9

MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	RIG.	GALLONS.	VALUE.
Mexico	D C Murray	Bark	313	\$ 285
Nicolofski	Catherins Sudden	Barkentins	1002	86.2
Victoria	Queen of the Pacific	Steamer	190	13.9
Apa	Grayhound	Schooner	26	2.3
Liverpool	Crown of Denmark	Ship	4523	292.2
Japan	City of Peking	Steamer	296	33.3
Victoria	George W. Elder	Steamer	69	13.6
Kahulu	Anna	Schooner	54	5.3
Tahiti	Riatis	Steamer	98	5.9
Tahiti	Tropic Bird	Barkentins	180	17.7
Honolulu	Mariposa	Steamer	536	57.6
Honolulu	Forest Queen	Bark	597	53.3
Total shipments by Panama steamers			36,887 gallons	\$18,052
Total shipments by other routes			7,914 "	6,098
Grand totals			44,801	\$24,150

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STATE OF CALIFORNIA.

Board of State Viticultural Commissioners.

SAN FRANCISCO, June 24, 1885.

To the Local Resident Viticultural Inspectors:

Your attention is specially called to the annexed letter of instructions addressed to Mr. F. W. Morse, who will communicate with you, seeking your assistance in his work. Where there are several Inspectors living near each other, it would be well if they would meet together and perfect plans for harmonious results and for energetic work. Accurate statistics, concerning acreage, ages and names of vines, classing all that are only cultivated experimentally, or for household use, as "miscellaneous," are very necessary at the present time, so that we may make no serious mistakes in calculations for the future care and marketing of our crops. Heretofore we have failed in procuring statistics; we hope that this effort will not fail, but that all interested will lend a willing hand, without waiting for personal interviews. Any reports sent to the Secretary of this Commission will be filed for the use of our special Inspector. The local newspapers would find an advantage to their readers if they would assist by publishing local reports, so that proper corrections may be made before final publication from this office.

We are desirous of obtaining the names and postoffice addresses of every vine grower in the State; but tables of statistics should avoid too much detail and may be made up for each locality, as though they were for one vineyard.

Local residents, inspectors, and local societies, should preserve records made now in such manner that the work may be continued another year without unnecessary waste of labor. Names and addresses should be changed when necessary.

CHAS. A. WETMORE,
Chief Executive Viticultural Officer.

SAN FRANCISCO, June 24, 1885.

F. W. Morse, Esq., Special Inspector.—
DEAR SIR: Enclosed you will find a copy of instructions concerning the collation of statistical information for this commission, which you are requested to execute as speedily as reasonable accuracy will permit.

If you will call upon local resident inspectors throughout the State, and others who may be competent, you may obtain valuable assistance. You should endeavor to secure, through such aids, as much as possible of the work accomplished in advance of your visits to different localities, so as to save time. All reports received by you should be verified, as rapidly as possible, to the best of your ability, and connected from time to time, as the work goes on. Yours respectfully,

CHAS. A. WETMORE,
Chief Executive Viticultural Officer.

MEMORANDUM OF INSTRUCTIONS AND ADVICE TO

F. W. MORSE, SPECIAL INSPECTOR,
To Guide him in Procuring Statistics.

What we want to know is the acreage of vineyards as follows:

1st. Total acreage by counties, and if possible by Districts, where they are easily defined.

2d. Age of vines, and names of varieties, showing relative proportion of each.

3d. When the vines are young estimate the number of vines growing where there are failures in the plantations.

4th. Approximate, for each District, the number of vines planted to the acre, without going into unnecessary details.

5th. General classification of the vines of each District with reference to producing capacity, giving general averages for each season, as nearly as possible, for each variety.

6th. Approximately, estimates of the vintages of 1884 and 1885, as nearly as can be obtained from local inquiry; classified with respect to production, as grapes for wines, grapes for raisins, grapes for table or shipping purposes; including tabulated statements of productions of wine and brandy; and the relative proportions, if possible, of red and white, dry wines and sweet wines.

7th. For each locality, the average crops obtained from vines, three, four and five years old, considered as young vines, distinguished from old vines.

8th. General estimate of the yield of different varieties, according to location, from five years old and upwards.

9th. Where vines have produced largely when young, three or four years old, under the influence of heat and irrigation, obtain estimates of the comparative capacity of vines seven years old and upwards, under similar circumstances.

10th. General estimates, approximately, of the comparative yield of vines between five and ten years old, and those older of a given variety in a given District.

11th. Estimate, approximately, of percentage of losses in different Districts, covering a period of years, occasioned by culture, frost, mildew, sun scald, early Fall rains and insect pests.

12th. Local estimates, approximately, of area intended to be planted in vines.

13th. Approximately, by general observation and inquiry, the relative proportion of lands planted in vines as compared with other "cultures" under the same proprietorship.

14th. Approximately, for each locality, the area of vines subject to irrigation, and if irrigated to what extent.

15th. Approximately, by classification for each District or County, the area of vines under control of single individuals.

16th. Class of common labor employed for different operations of vineyard work, such as pruning, caring for the vines in Winter, gathering of the crop and disposing of it, and to what extent such labor is resident in the immediate vicinity of the vineyards, and what is the price paid for work.

17th. Ordinary time of maturity in each district for each prominent or leading well-known variety of vine; classifying maturity with reference to the object for which the fruit is to be used.

18th. General average, for each locality, of the duration of the vintage from the time of earliest maturity to the latest of the first crop.

19th. Names of varieties in practical cultivation in each locality which produce second crops, which are used by the vine growers, and a general estimate of the time when they ripen for practical uses.

20th. Saccharine degree of "musts" of prominent varieties in each district, possible to be obtained in ordinary average years, classified with reference to the different quality of the lands, if necessary making due allowance for the age of the vines, because a discrepancy might occur between the degree of "must" from young and old vines, ascertaining if possible, to what extent it may be true that young vines produce sweeter "must" than older vines, or vice versa, and note at the same time the average saccharine strength of "musts" as they are picked for practical work.

21st. Obtain, when practicable, by use of saccharometer the saccharine strength of Muscatel grapes when fully ripe in different localities, especially noticing what influence there may be upon such strength by use of irrigation, noting when you observe apparent difference of degree of sugar on lands irrigated and not irrigated, whether the water of irrigation remains near the surface or drains away; and noting also difference in saccharine contents of first and second crop of Muscatels.

22nd. Relative loss of weight of Muscatel in course of desiccation in different localities.

23d. Relative proportions of raisins made in each locality, from natural, sun-dried or artificial processes, making special notes of first and second crops in this respect.

24th. Relative loss in culling grapes for raisins, drying or shipping purposes, and the usual methods of disposing of the culls and value of the same at the vineyard or place of disposition.

25th. As accurate statements, as possible, of shipments, whether by rail or steamboat or otherwise, from producing points, classified according to nature of products, together with a general but conservative estimate of local consumption aiming in this estimate to procure as nearly as possible, verification of the estimates of total crops of different kinds, making an effort also to procure as accurately as possible, estimates of stocks on hand, retained in the country.

26th. Cooperage and storage facilities, in each locality, for caring for the wine over one season; together, also, with an estimate of similar facilities for caring for the wine between the vintage and the following season; with notes of operations in progress for increasing such facilities and the extent of the same.

27th. For each locality a general statement as to the relative proportion of grapes transported some considerable distance to wineries and distilleries; together also with a general statement of the average cost per ton of such deliveries, and the average price paid in 1884 for the different varieties of crops at wineries and distilleries; with statements for 1885, if practicable, and a note of local rules determining the values of the same varieties in accordance with their quality.

28th. Concerning distillations, ascertain as nearly as can be for each locality the relative quantity produced directly from wine, as compared with others produced from pomace, or piquette.

29th. A general statement without detail (unless specially important in some localities) of the classes of products for which new vineyards are intended, as for instance for shipping grapes, raisins, brandy, sweet wines, dry wines, etc.

30th. Acreage of vines, not resistant, in

each locality that have been grafted to improve stocks, and names of the varieties grafted with. State separately where grafting is done on resistant vines, together with the percentages of failures that have been noticed in grafting.

31st. Time required in different localities for drying first and second crops of Muscatels in the sun.

32nd. Average duration of fermentation in different localities of different prominent well known varieties of grapes considered together with the size of the fermenting tanks especially relating to their depth; also average size for the cooperage for holding wines after fermentation, and kind of wood used in cooperage; also general description of construction of cellars and fermenting rooms, with respect to the material of the walls, thickness, etc., and control of the temperature.

33d. For each prominent locality noting during the periods of fermentations the average range of temperature in external atmosphere, being careful to obtain data from sources that will furnish fair information to the public, noting within what degrees during ordinary fermentation, temperature controlled by ordinary constructions such as are in common use.

34th. Approximate estimates of common practice in different localities in treating musts for fermentation; for instance, stemming or not stemming, and general observations as you pass in the vineyards concerning different varieties at vintage time showing the condition of the same, whether green or ripe, or approximately ripe, and such other items as may become interesting and will serve for statistical information such as the material used for stakes, and the general cost of the same, the depth which plowing is practiced in planting, the length of cutting used and the depth which they are planted usually, etc.

35th. In connection with distillation ascertain, as nearly as possible, local practices, where it is intended to distill wine whether the wine has been fermented on the skins, or not.

It will be seen from an announcement in another column, that the Woodland Wine is offered for sale. The proprietors, Messrs. Clark & Culver, offer the whole property the cooperage. The capacity of the winery 160,000 gallons, and it is the only one in the vicinity which produced, last season, 2,000 tons of wine grapes. The machinery very complete and in good condition, and the building is close to the railway depot.

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A MEMOIR ON OLIVE-GROWING

WITH ILLUSTRATIONS.

Read Before the State Horticultural Society, February 29, 1884, by

FRED. POHNDORFF.

Will be mailed by the S. F. MERCHANT on receipt of 50 cents in one or two-cent postage stamps.

REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and Sau Francisco, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country,

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the BERMEL Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

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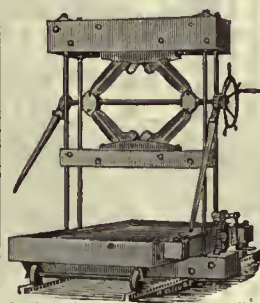
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Testimonials from I. DeTurk, Santa Rosa; J. B. J. Portal, San Jose; Ely T. Sheppard, Glen Ellen; Kate F. Warfield, Glen Ellen; J. H. Drummond, Glen Ellen; Joseph Walker, Windsor; John Harkelman, Fulton; Wm. Pfeffer, Oubersville can be had by applying for printed circulars.

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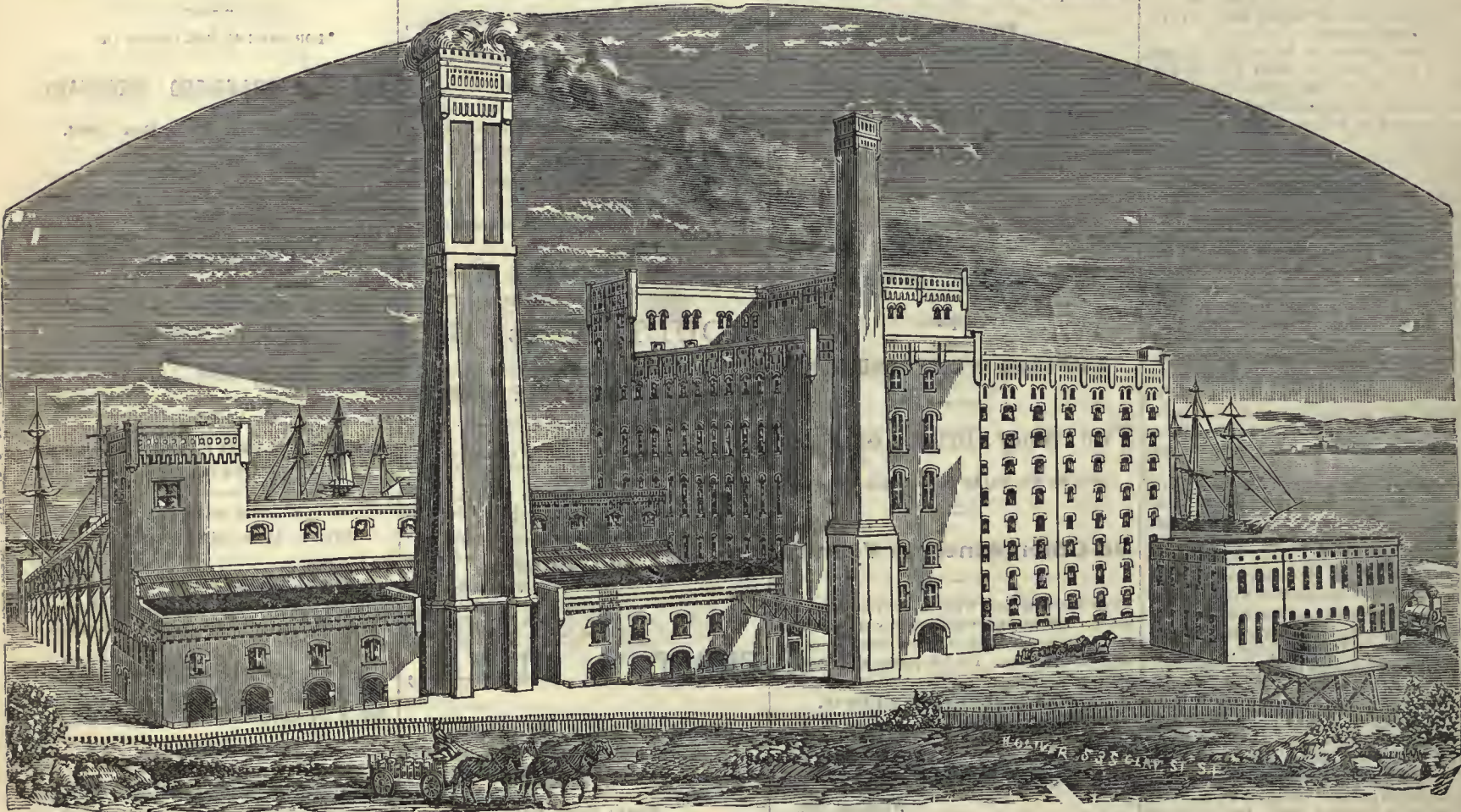
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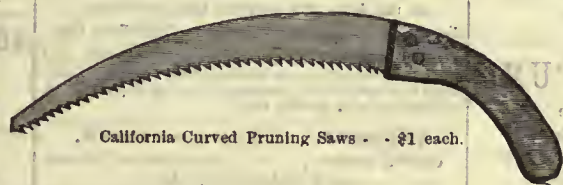
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DAILY CALL, OCT. 18, 1883.

THE WINE PRESS AND THE CELLAR.—A manual for the Wine Maker and the Cellar Man, is the title of a work just published, from the pen of E. H. Rixford. The work, the author says in the preface, is the result of research by himself, chiefly for his own benefit, and in going over the literature of the subject of wine making, he failed to find a work in the English language which is adequate to the needs of the practical wine maker. The book is intended to supply the deficiency. Elaborate statistics of the California wine product are given. Besides the preface, the work contains twenty chapters, each embracing a distinct subject relating to the manufacture of the various wines and putting it up for market; defects and diseases of the liquor; mixing wines; analysis, etc., with forty-two illustrations in all. The processes begin with the gathering of the grape, following each step and the processes attending it, in the manufacture; treating of the various qualities and the causes upon which these various differences depend. The book contains 240 pages, and is thoroughly indexed.

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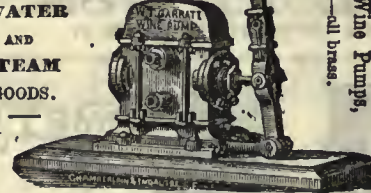
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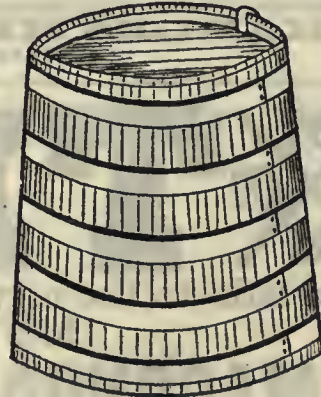
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VOL. XIV, NO. 8.

SAN FRANCISCO, JULY 31, 1885.

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FERMENTATION.

[Wine Trade Review.]

The subject of fermentation is one of the highest importance to the wine trade. Until recent years it has not been understood even by scientific men, and perhaps we may say that it is not yet thoroughly understood by them, for their assertions are occasionally at variance one with the other, and the wisest of them confess that a wide field is yet open for discovery. Such being the case, one need not wonder that wine merchants are yet, as a rule, not masters of this important topic. It has been discovered by men of science that the skin of many kinds of fruit which are adorned with what is generally called bloom, is pregnant with the germs of living organisms. These germs remain in a dormant condition until they are brought into contact with the sugar, and then being deprived of nourishment from without, and finding in the sugar food on which they can live they develop in a surprising manner. One eminent authority has affirmed that a germ invisible to the naked eye is capable of developing progeny in a week that would weigh 10,000 tons, provided that ample space for their development, and sufficient food were provided for them. The rapidity, with which wine, beer, and other fermentable liquids sometimes turn sour is thus easily accounted for, and the frightful ravages occasioned by contagious diseases, such as cholera, fever, etc., which are due to the presence of specialised ferments in the human system, are likewise explained. A merchant who does not carefully store his wines, and who does not inspect them from time to time to watch their progress, may suddenly discover that certain casks or certain bins have gone irretrievably wrong, and only when it is too late he vainly seeks for remedy. The numerous anxious inquiries which we receive on this subject show that losses of this kind are by no means inconsiderable, and it is conceivable that there are merchants who keep their trouble to themselves, so that we are unable to gauge the extent of the annual loss from this cause.

We have probably said enough to prove that this subject is one deserving careful and attentive study. The organisms which produce what is called fermentation are only simple cells; as the result of their growth they give rise to distinct forms of

ferment called alcoholic, lactic, butyric, etc. The study of these different evolutions is one of the most important that can be imagined, for upon their development it depends whether a gyle of beer will become a drinkable liquid or very bad vinegar, whether a cuvée of wine will be worth 20l. a hogshead or nothing at all, and very often whether a fortune is made or lost in preparing liquors. To assist in the study of ferments a powerful microscope is needed, one which will exhibit thousands of living budding organisms in a single drop of wine or beer. Some of the most intelligent brewers in the United Kingdom have learned the utility of this instrument in watching the progress of fermentation in their worts, and every wine merchant should possess one, and should be practically acquainted with the shape and appearance of those germs that produce the secondary fermentation in wine which, if not checked by some means or other, must invariably lead to acidity.

The genesis of the important science of fermentation does not extend further back than the epoch of Lavoisier, who in 1788 discovered that carbonic acid gas and alcohol are the principal products of the transformation of sugar, and are formed in nearly equal quantities; 100 lbs. of sugar giving after fermentation about 50 lbs. of alcohol and 50 lbs of carbonic acid gas.

Sugar contains carbon, hydrogen, and oxygen, so also does alcohol, but in other proportions: in carbonic acid gas there are only carbon and oxygen. The decomposition of sugar is therefore accompanied by a complete breaking up of its molecule, in other words, the simple elements of that body are differently re-arranged, a third part of the carbon and two-thirds of the oxygen unite to form carbonic acid; the remaining two-thirds of the carbon, the whole of the hydrogen, and the one-third of the oxygen, form alcohol. The breaking-up of sugar, therefore, yields two new bodies, one containing more oxygen than sugar—namely, carbonic acid, identical with that which escapes from our fire-places and our gas-burners; the other, still combustible and capable like sugar of giving heat and of becoming a means of nourishment—viz., alcohol.

The discovery of Lavoisier was most important one, but he was only upon the threshold of the science. Let us honor him for what he has done, although subse-

quent and greater lights have dimmed the lustre of his fame.

The next period of enlightenment was when Cagniard-Latour in France, and Schwann in Germany, commenced, with the aid of the microscope, to study the transformations of yeast. To them is due the discovery of the budding principle of the germination of fermentations upon which all later discoveries are based. Cagniard-Latour takes high rank amongst scientific men, for he had the courage to state that if yeast makes sugar ferment, it is no doubt through some effect of its vegetation and of its life.

Unfortunately for the progress of science in this particular field, Liebig followed with statements calculated rather to depress than to animate the study of the germ theory of fermentations. He endeavored to prove that the active agent of alcoholic fermentation was not a living creature, but was similar to the putrefactive actions which take place in sour milk and other decomposing substances. The magic glamour of this man's name, aided and substantiated by much useful chemical work that he had done, gave to the public mind receptivity to his statements, the more so as the unscientific public were unable to detect any unsoundness in his reasoning, or to discover any error in his deductions. For a time his theories reigned supreme, until the careful and well conducted experiments of Pasteur proved that Liebig was mistaken. Cagniard-Latour had expressed an idea, Pasteur proceeded to seek it out, to develop it, and to improve upon it. He showed that in a medium entirely free from that organic matter to which Liebig assigns an important part, only containing sugar, a salt of ammonia, intended to furnish nitrogen, and suitably selected mineral elements, a few milligrammes of yeast are introduced as seed, and a regular fermentation is seen to take place. Carbonic acid gas is disengaged as the sugar disappears, leaving alcohol behind. Meanwhile the yeast, instead of being putrefied, as Liebig affirmed, buds and multiplies, so that sometimes a hundred times more is taken out than was put in. Pasteur discovered that yeast is a living organism, containing mineral matter, including phosphorus and sulphur, and that in addition it contains nitrogenous matter, and carbo-hydrates.

The results obtained by Lavoisier, useful as they were, have been shown to be in-

complete, for carbonic acid gas and alcohol are not the sole products of alcoholic fermentation. Glycerine, succinic acid, and numerous other compounds, as yet insufficiently studied, are always the attendant bye products of fermentation. A little over three per cent of sugar gives glycerine, a little less than one per cent gives succinic acid. Thus five per cent of sugar escapes decomposition into alcohol and carbonic acid, to which the remaining 95 per cent of sugar are subjected, when the fermentation takes place under ordinary conditions. With the molecule of sugar, as the agent supplying the heat necessary to the performance of work, yeast forms various tissues, such as nitrogenous, cellulose, and fatty matters, and at the same time the sugar undergoes varied transformations; it becomes carbonic acid, alcohol, glycerine, and certain other bodies, such as acetic acid, etc., and others which chemical analysis cannot yet perfectly handle.

Another most important fact brought to light by the researches of Pasteur is that the decomposition produced by micro-organisms is not peculiar to brewers' wort or wine-growers' must; but that wherever decomposition occurs in animal or vegetable life these creatures are the active agents in producing decay and the subsequent new life which follows it. They are universal agents of that goddess whom the ancient called Hygeia, the patron saint of health. When space is allowed for their operations, when suitable conditions exist for the development of their remarkable powers of fecundity, they transform into primitive matter most speedily all that was once organic. Without them the business of the world could not go on. The most complex forms of life, such as we find in the mammalia, are composed of simple elements, and to these simple elements they again return entirely through the action of these myriad germs with which the air is full. The elaboration of this germ theory, incomplete as it is at present, suffices to give eternal honor to M. Pasteur.

A gentleman from Australia reports that in one part of that country the juice of black grapes is fermented into what is known as Schiller wine, and the skins are dried carefully, pressed, and sent to London where they sell for a large price to be used in fermentation for red wines.

Californian and Australian Brandies.

Mr. Thomas Hardy of Adelaide, who visited California vineyards two years ago, had the kindness to send his notes on vineyards in America and Europe to several of his friends and favored the writer also with a copy. The book is full of the most interesting observations and gives an exact idea of the attention Mr. Hardy paid to all he saw and that with the eye of a practical vigneron who can profit from what he met with in his travels of instruction, wherever he saw superiority. His clear statements give rise to many a thought and it will be well to investigate the reasons for many a thing done in Europe which may be equally beneficial to the Californian wine industry.

On page 113 Mr. Hardy states that he showed to one of the foremen in the Cognac establishment of Martell a sample of brandy he had brought from California. The foreman said "the smell was not good, but that it arose from the soil and not from careless distillation and that it was too dry and wanting flavor."

On page 111, relating his visit to Barbezieux in the Cognac district, Mr. Hardy notes the opinion of Mr. Bontilleau, Jr. on a brandy from Albany, Australia. It was found too dry and wanting in flavor, but not otherwise a bad article. Mr. Bontilleau thought that in Australia good brandy could be made.

"The principal grape grown," Mr. Hardy continues, speaking of the Cognac district, "is the Folle Blanche or Gouais, its principal recommendation being that it is a heavy bearer. Almost any other white grape would give good brandy from this land, and it depends on the soil to give the different qualities and flavors more than on the kind of grape grown. The black grapes are considered to give a coarse brandy and are not much grown."

These observations seem to be worth studying. If correct in the absolute, we shall have to attend to the localities where the produce nearest to the accepted ideal of Cognac brandy will be grown. It will be of interest to study by careful comparison at the next State Convention how far the remarks in regard to the effect of soil on certain varieties hold good, for in looking for quality, the requirement of best adapted soil and variety, (for variety certainly enters into the requirements for quality both in wines and brandy) will oblige us to find out where the best standard in brandy will be placed.

The opinions of the two judges of Barbezieux and Cognac on the brandy samples from Australia and California coincide as to their defects of being too dry. This is probably understood not as the counter sense of sweet, but rather as wanting of that roundness, fullness and ethereal body the Cognac people are accustomed to in their brandies, and "dry" meaning here a relative insipidness. Flavor in brandies will signify the fine odor of the essential matters which are kept in the liquid by careful distilling and this was missing in the two Pacific brandies. Certainly the soil has a great deal to do with elaborating these factors of perfection in a brandy. The finest southernmost brandies of France are produced in the soils of Armagnac. Those are not very rich soils. The sandy soil of the Landes is near to that district. Nowhere is the grand merit of the Charente brandy equaled. It seems to be an advantage to grow the vine under difficulties and for the production of good brandies a com-

paratively rigorous climate appears to aid and favor the solution in the soil of the Cognac district of those elements which show forth in the produce. Mr. Hardy describes the slightly undulating soil there as "a sticky black clay, almost like the Australian Bay of Biscay land, and all on a shaly limestone foundation; in many places it works up with the top soil."

In Spain the writer had occasion to observe practically the raw spirits made in different provinces from the same grape varieties. I recollect well how a certain spirit from the coast of Granada was found very acceptable and paid for higher than others from the same grapes which had not the delicious perfume like impurities of the former. There will be apparent many illustrations of the correctness of Mr. Hardy's views respecting soil for brandy, in our State. As we are striving for quality, the matter is worth investigating practically. It might be well also if gentlemen who take an interest in the matter, would discuss in letters in the MERCHANT what their opinions are and in which localities of the State particular merits in brandies are present. There was a nice little collection of brandies at the last Convention which gave scope for investigating the merits of several grapes for the purpose; also of the influences of distilling with or without pomace. We should, for a more rapid development of the brandy interest, extend that exhibition for the comparison and study indicated. As in wines so in brandies, each year a more scrupulous distinction in quality will be exercised, and brandies be valued according to their merits and perfection. The time of any brandy being acceptable in the market is passed. F. POINDORFF.

In Explanation.

EDITOR S. F. MERCHANT:—In your last issue Mr. L. J. Rose censures my opinion in regard to the partisanship for the Mission vine in his district. It affords me sincere pleasure that Mr. Rose has reason to correct my impressions. These were obtained on the spot when, sixteen months ago, I paid a visit to Los Angeles county. The resentment of the advice given by the Viticultural Commission at the Convention at Los Angeles two years ago had not died out then in the minds of grape growers with whom I had occasion to converse. I was aware that the gentlemen Mr. Rose named were taking the lead and had taken it before the exhortations at the Convention. I did not invent that one vineyard had then recently been planted by the hundreds of acres to Mission vines. One journal in Mr. Rose's district took Mr. Wetmore and my humble self, who had ventured to confirm the correctness of the opinions of the former, severely to task. But now after Mr. Rose's information I see how wrong I was of late not to remember that one year's progress in the country, the hospitality of which I enjoy, equals that of a decade or more in the old world. And I rejoice that Los Angeles county has taken such a stride in true viticultural progress as every well-wisher of the industry must desire.

Paying due tribute to the leaders who have done so well and to those who have followed in their wake, I have to apologize to Mr. Rose for my error, and do so with alacrity.

I wish I could indicate from the great number of varieties which show true quality and seem to take readily to our California soil, the best adapted for Mr. Rose's

district. Always ready as a co-worker to learn, I must leave that task to the experience of better men.

F. POINDORFF.

The Burger Grape.

The Burger vine is of importance to many of our vintners, because it has been planted extensively. The writer's impressions of the quality of the wines from that variety are not exactly favorable. He ventured the opinion that at best the Burger grape seems to be only a quantity grape. Still, there are produced very neat Burger wines; they are acceptable to many consumers, and they sell.

In quest of literature on the subject I just now hit upon a little book, printed in 1876, in Frankfort on Maine. Its title is "Viticulture in the Rhinegau," by Emil Roth of Eltville on Rhine. Classing the Riesling vine as the provider of the finest of wines, giving his opinion of the Orleans vine, which near Rudesheim is the chief variety, as very favorable, he describes the Burger, called Elbling or Kleinberger. That description tallies with the vine, leaves and fruit of our own Burger. Then he says as follows:

"This ancient variety is still cultivated in inferior vineyards in the Rhinegau, although when flowering it is neither resistant to bad weather, nor can its wine rank among those of good qualities, for it has neither a lively expression (geist) nor aroma (spice), is not durable and only recommended for rapid consumption. This vine prospers in any position, in any soil; it has to be pruned bow-shape and pretty high, brings forth strong wood and with warm weather a large quantity of grapes. People are easily led to propagate this common variety in inferior locations, as it produces largely. But its wine is of the lowest quality. By blending some Riesling grapes with it, the wine results with some bouquet and body and becomes more durable, but its quality still remains an inferior one. If such locations were planted with Traminer or Rulander, the result would be a good wine and from such improvement the advantages would be for the whole district. Sub-varieties, such as the Grobe Spitzpranger, the yellow and the hard Elba are degenerations and absolutely worthless."

Dr. F. Mohr of Coblenz, in his work "The Vine and Wine," printed twenty years ago, says in regard to Burger simply:

"From old times cultivated in Germany from the lake of Boden to Bringen, now it is replaced in many places by noble varieties, chief among them Riesling. Sensative in the flowering season, wood rich, very fertile; wine poor, without bouquet, but on the Moselle improved by an addition of Riesling."

E. Mach in his "Technology of Wine," has this short descriptive sentence on the variety, implying that it is considered of no consequence for Austria, "that it is common on the Rhine, a prolific bearer and yields a good table-wine."

These opinions, therefore, concede only mediocrity to the Burger.

The merits it has on the Rhine it seems to adhere to here. The construction of the California Burger wine is more solid and firm for keeping, while acids and alcoholic proportions are well equipoised. In Germany the cool, moist climate effects probably a more delicate ethereal expression, and generally less roughness. There being

in the different regions of our State quite different results in the Burger wines and doubtless in more than one locality greater perfection in the taste is obtained—it being a wine quite proper for extracting from it a good brandy—why should we not tolerate it? To continue extensive propagation of the Burger vine, however, might not be advisable. Quantity in the market will henceforth be no consideration, when quality (and quantity too) can be produced from varieties of vastly superior virtues.

F. PDFF.

Grape Growing in Colfax, Placer County.

EDITOR MERCHANT:—It was not until the past two years that parties became assured of the fact that grapes and fruit would grow here without irrigation, and that too on the tops of the hills. But it has been demonstrated conclusively that as fine an article of grapes as any in California can be grown here without a particle of water, except such as nature furnishes. Plenty of thorough cultivation and attention are all that is requisite.

Some eight or ten years ago a Mr. Graham put out a vineyard of twelve acres in several varieties, principally Flame Tokay, Purple Damascus (probably misnamed), Muscats, Zinfandels, Catawbas, etc., etc.,—later they were seriously attacked with mildew, which threatened their extermination. At this period the property came into the possession of Mr. J. B. Whitcomb, and through his energy and (I must not omit) that of his estimable lady, the vines were resuscitated, and have since annually borne large quantities of excellent fruit which found a ready market in the mining districts which surround us. Encouraged by his success, numerous parties have embarked in the business, one of whom is your correspondent, and we can now count the acreage planted to vineyard at from 350 to 400 acres and constantly increasing. Many of the parties are direct from the East while others are from our large cities. We confidently expect, in the near future, to see Colfax as famed for its fruit as it was noted years ago for its valuable Placer mines.

Our position on the Central Pacific Railroad, at the most easterly point of the Pacific Coast at which grapes can be grown, cool climate, cooler climate through which grapes pass in shipment, nearness to market (being 200 miles East of San Francisco), all these facts lead us to believe that we will be able to successfully compete with any part of California in placing our A. No. 1 fruit on the Chicago and New York markets where good prices are assured. Of course with this in view our principal plantings are of the table and shipping varieties and at this early date we "throw down the gauntlet" to the whole State confident of our advantages. I should have mentioned in connection with Mr. Whitcomb, that he secured the first premium at the State Fair at Sacramento, in 1883, for quality of grapes over all competitors from other well-known grape districts of the State. He did not exhibit in 1881 on account of the lateness of the crop, but you may hear from us again this year since the grapes have set well and bid fair to equal previous seasons, the late frost in April having done no damage to speak of. There is still plenty of the same kind of land hereabouts but the most eligible sites have been taken up.

W. G. HUNLEY.

Colfax, Placer County, July 16, 1885.

Fermenting Wines.

The following is a copy of a letter written by Mr. C. A. Wetmore, Chief Executive Viticultural Officer, to the Cloverdale Reveille:

Editor Reveille: DEAR SIR—In condensing my remarks at the recent meeting of vine growers at Cloverdale, your reporter has done remarkably good work; I have had experience enough to know that it is not an easy thing to do so. Passing by a few typographical errors, which are practically unimportant, I wish to make clearer a few points which in the condensations are left a little obscure.

I did not intend to be understood as recommending the treading of fermenting must with the feet of men or women, as in Portugal and other countries, but to call attention to a common practice, honored by successful results, as proving that some real good was accomplished by the operation. This good, I tried to explain, consisted in thoroughly stirring the fermenting must, and might be effected by other means. The real advantage was in the thorough stirring, not in the naked feet.

I endeavored specially to show that in our most favored districts, our conditions of viticulture resemble more those of the south of France and Spain—not "France and the south coast of Spain." This is only a technical correction, but one which will be appreciated by those who remember that it is mainly the northern part and the Mediterranean coast of Spain that produce the great body of Spanish clarets, and the southern part that produces the sherries and malagasy. For regions resembling, in climatic influences, the south of France and the claret regions of Spain, our best selections for common stocks of popular commercial red wines will probably be produced from the Mataro, Carignan and Grenache, which are late ripeners and produce well with short pruning. The Carignan should be doubted for places liable to much fungoid disease. I have seen some bad samples of mildew from San Mateo County on young Carignans.

Around Cloverdale, you can ripen all the known cultivated varieties; hence your difficulty is in selection, but experience shows that where the most varieties will ripen, the earliest varieties ripen too early to be the best for the locality, owing to the difficulty of picking them at the right degree of maturity, avoiding over ripeness—if intended for dry wines. For sweet wines, this early ripeness is not an objection. Generally speaking, heavy bearers are late ripeners; hence, practical good sense indicates that for such regions as Cloverdale, the average man will select the best qualities of late ripening good bearers for dry wines, although, with exceeding great care in picking at the proper time, some of the earliest varieties might make fine wines.

The important general rules in fermentation that experience here and practice elsewhere prove, which I desired to impress upon the memory of inexperienced wine makers, were, viz:

First—That the warmer the temperature of the atmosphere, and the richer the musts (in sugar) the shallower should be the mass in fermentation—no danger of getting it too shallow in practical work; as I was illustrating when referring to the practice in Portugal, where the men and women dance in the vats, the must being only knee deep.

Second—That we must try to so perfect our fermentations before the Spring warm

weather sets in, that the Spring fermentation will be little or nothing to fear—for it is then that we have mainly to fear those alterations which are caused by "diseased" ferments. To do this we must get as thorough work as possible out of the first violent fermentation, and then must so protect the wine after it is drawn off that the insensible after-fermentation is not checked. As aids to this we must blend our wines when they are first drawn, so that those which have plenty of tannin and potash salts may operate on those which are deficient in such elements so as to precipitate the excess of fermentative properties.

This last observation is especially true of many Zinfandel wines, which have a surplus of free tartaric acid, and a deficiency of bi-tartrate of potash and tannin. My belief now is that our Zinfandel clarets can be improved by leaving them on the pomace until they draw off clear—thereby allowing time for the free acid to combine with more potash from the pulp and extracting more tannin and color. If Mataro wine, well fermented from grapes containing about 24 per cent of sugar, can be had to blend with Zinfandel at the time of racking the wine about December, both may be improved in character, the Mataro perfecting the Zinfandel and checking the tendency to diseased Spring fermentations.

In some of our vintages, I believe that some are beginning to use from three to five pounds of pure sulphate of lime (gypsum) on our Zinfandel grapes per ton in fermentation—dusted on the grapes—to facilitate the extraction of potash, to set the color and to clear the wine before Spring from fermentative principles. This is the practice in the south of France, Spain and Portugal with wines which do not become clear easily, or which are liable to trouble in transportation. We are in hopes that study will reveal still better methods, less liable to criticism, if we can succeed in obtaining supplies of pure grape tannin, as a substitute to gypsum; but an excess of this is objectionable, because, while it clarifies and preserves the wine, it makes it too astringent, requiring age to remove it, during which time also the wine may lose its color. The best thing to rely upon is a blend with such grapes as are known to produce wine that keeps well and is not liable to disease—such as the Mataro and the Tannat for first-class, ordinary wines, and the Cabernet and Verdot for fine high-priced products; but such blending should be done when the wine is first racked off in the Winter, if impracticable during fermentation.

The Pinot, of Burgundy, is not a good bearer. The reporter got me mixed up on that point in one place. In speaking of the "so-called American grape of intense color," I referred to the variety called "Lenoir," which makes a profitable coloring wine, but not the best we now know.

When your wine makers find accidentally that their Zinfandel grapes, when crushed, are showing too high a degree of sugar for claret, they should either mix them with grapes that have less sugar, or add water to reduce the density. Our present knowledge indicates that of Zinfandel from hill-sides, or from lands where the roots do not reach too much moisture, the best clarets are made with musts containing 20 to 22 per cent of sugar; anything over 22 per cent for that variety should be considered more or less dangerous in fermentation, if unaided. I would not pretend to lay down the rule for reduction with water, but I should expect good results by reducing 24

per cent to 23, 26 to 24, or even to a less degree. Water assists rich musts in fermentation remarkably.

As a general rule, I think it would be well for us if we should leave our clarets on the pomace until they draw off clear; some may be benefitted for commercial blending by leaving them on the pomace some time after they become clear. This practice would require care in covering the tanks before the first warm fermentation is quite finished, so as to retain carbonic acid gas to protect the top of the wine from spoiling by acetification, or mould. Before we give any fixed rules in this respect we must do more experimenting. Some grapes may not be suited to such treatment.

I shall try to publish some comments relating to the principles of fermentation, which may be of use in assisting wine makers, who lack experience in inventing their own remedies for difficulties that they may encounter from time to time. Meanwhile we must all learn as rapidly as we can from each other's experience and observations.

Yours respectfully,

CHAS. A. WETMORE.

Chief Executive Viticultural Officer.

Condensing Must.

The special machinery for reducing must in the vacuum, to which reference was made in the last issue of the MERCHANT, is simply a copper coil inside an iron pipe. Steam is admitted to the space between the pipes and a vacuum produced in the copper coil. The liquid to be concentrated is fed in a continuous stream to the inside of the copper coil, and begins to boil at once at the low temperature corresponding to the perfection of vacuum. The vapor formed carries along with it the liquid being concentrated, so rapidly that it is thrown into spray, thus greatly favoring the liberation of vapor and absorption of heat. This is shown by the extraordinary capacity of these machines—a square foot of heating surface evaporating fully three gallons of water per hour. The vapor and reduced liquid are discharged into a separating chamber, where the liquid is either trapped off through the tail pipe by gravity, or where sufficient height is not attainable, by a pump attached to this pipe, and the vapor drawn over to the condenser. If a frothy liquid is being operated upon, the frothing ceases as soon as discharged into the separating chamber, where it soon breaks down and is pumped out with the liquid, with no tendency to be carried over with the vapor.

It is known as the Yaryan Vacuum Distillation Apparatus, and among the advantages claimed for it are, that it is automatic and continuous in its operation. It can be worked with exhaust steam, and as double or triple effect. It is made of copper, and can be tin lined when desired. It is less expensive than Vacuum Pans, and requires no expensive foundations. It can be readily cleaned, and its capacity increased by adding more coils. It will concentrate the most frothy liquids without priming or the most delicate substance without injuring the flavor. An apparatus set up on the plantation of Dr. A. Duprier, New Iberia, La., worked his entire sugar crop of last season (about 250,000 gallons of juice) without cleaning, and at the close showed no signs of being coated.

Please notify this office of an irregularity in receiving the MERCHANT.

Views of Vineyards.

We have lately seen some excellent views of vineyard scenery, wine making machinery and cellars. A well arranged series of such views together with studies of vines, their fruit and foliage, and any peculiarities that are special to California would be an admirable and attractive means for drawing attention to our viticultural industry. Strangers, travelers and tourists will always examine an album of photographs, and be impressed with them, when they would not devote any lengthened period to a perusal of an extended and detailed descriptive publication. An album of views when placed in hotels, railways, steamers and public libraries is always carefully scanned. If it can be made illustrative of the whole industry, including the systems of cultivation to the manufacture of wine and raisins, it would be doubly valuable and a recognized practical, standard work. We believe it is the intention of I. W. Taber to undertake the preparation and publication of such an album as we have outlined. He further proposes to include brief and interesting articles pertaining to viticulture in California. It will be free of all advertising matter except what is necessarily contained in the views and descriptions of each vineyard represented. No charge will be made for being so represented, all that is required being a notification from any vineyardist or winemaker that he is willing to allow his property to be photographed and whether he has any subject of special interest for illustration or description. As the work will probably be limited to a hundred views, and as the applications are already numerous, it behooves those who are anxious to be represented to lose no time in communicating with Mr. Taber.

HAWAIIAN CONSULATE, SAN FRANCISCO.

IT HAS PLEASED HIS MAJESTY THE KING OF Hawaii to elevate the Hawaiian Consulate established at this port to the rank of a Consulate-General for the States of California, Oregon and Nevada and for Washington Territory.

D. A. MCKINLEY,
H. H. M.'s Consul-General.

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THE LOUISVILLE EXPOSITION.

An Important Notice to Viticulturists.

Two Committee meetings have been held with reference to the proposed viticultural exhibit for the Louisville Exposition, mention of which has already been made in the columns of THE MERCHANT. At the last meeting there were representatives from Napa, Fresno, Sonoma and Sacramento Counties. The Secretary reported that he had been in communication with Mr. T. H. Goodman of the Southern Pacific Company on the subject and more especially as to the return of the company's agent, Mr. C. B. Turrill, with whom it was deemed expedient to confer. In this gentleman's absence, Mr. Goodman had authorized Mr. M. H. Turrill to meet the Committee and explain what arrangements would be made by the Company for the transportation of exhibits, etc.

Mr. Charles A. Wetmore who was invited by the Committee to give them any ideas or suggestions, said that he believed Mr. C. B. Turrill was a most enthusiastic and active worker; he really wanted to work and do good for the benefit of California. His opinion was that the State viticultural exhibits should not be sent for competition but for the purpose of popularizing the goods. If individuals wished to compete they should do so privately. His idea was to send chiefly samples of wines that could be supplied in lots of ten or fifty thousand gallons when required, and of a quality that could always be maintained. He suggested that wine should occasionally be on tap at the Exhibition that the people might taste it for themselves and ascertain what they could obtain for seventy-five cents a gallon; it would be advisable to store it in some cool cellar at Louisville until it was required for use. He thought that fresh grapes should be forwarded every few days and they could be consumed on the arrival of the later exhibits and not be left to rot.

Mr. M. H. Turrill explained the arrangements made by the Railway Company for the transportation of exhibits, particulars of which are given in the annexed circular. All exhibits would be forwarded immediately on receipt and by baggage car by the Union Pacific route. This would ensure their prompt delivery through the coolest climate. A man would be specially engaged to re-address all packages on their arrival in San Francisco. The exhibitors need only convey them to their nearest station and affix special tags provided by the Company as all station masters were instructed to forward such packages to San Francisco. The fruit should be carefully and lightly packed and could be forwarded at any time while the Exposition was open.

The Secretary was instructed to write to Mr. C. B. Turrill at Louisville and ask for any further points or facts concerning the Exposition which it would be desirable to know; also to state that all arrangements had been perfected in San Francisco and that the Chief Executive Viticultural Officer would be in Louisville towards the close of the Exposition when it was hoped they would co-operate for the benefit and interests of the State.

Mr. Estee volunteered to see the Napa wine makers and get exhibits, and he thought he could easily get samples from a dozen different people. He was quite sure there would be a good exhibit of rais-

ins from the State and the raisin makers should forward boxes of this season's fruit as soon as it was thoroughly prepared for the market. They should send good quality and as early as possible.

Mr. Eisen undertook to collect exhibits from Fresno County, and Mr. J. H. Drummond of Glen Ellen promised to do his best on behalf of Sonoma County. Mr. Drummond already has twelve dozen of wine at Louisville which were sent there from the New Orleans Exposition, but he has promised to forward, in addition, a hundred gallons in wood.

The Secretary was instructed to forward, as early as possible, to all viticulturists and others interested in the undertaking the following

CIRCULAR.

The Committee, appointed by the State Viticultural Commission, for the purpose of securing an exhibit of viticultural products representative of California, has instructed me to send you the following particulars and to solicit your earnest co-operation.

The following samples are considered desirable, by the Committee, to be the main features of the exhibit, which should be, in every possible particular, typical of the viticultural industry of this State.

First—Collections of wines, brandies, raisins and fresh grapes.

Second—Photographs of vineyard scenes, wine cellars, grapes; charts, pictures or maps illustrative of the extent and diversity of the industry.

Third—Samples of soils from different localities, vines of different ages showing the branch and root growth; pressed specimens of the foliage; specimens preserved in solution.

Fourth—Products made from the grape, such as grape syrup, cream of tartar, etc.

Fifth—A register of varieties of vines for sale, with the prices and peculiarities of each concisely stated; also prices of wines for sale and by whom.

The Committee in charge of this exhibit are Hon. M. M. Estee of Napa, Chairman; I. Landsberger of San Francisco, Captain J. Chamon de St. Hubert and D. C. Feeley of Santa Clara Co., E. W. Maslin, W. B. West and H. P. Livermore of Sacramento Co., F. T. Eisen of Fresno, J. H. Drummond and Hon. W. McPherson Hill of Sonoma Co.

In order that efficient work may be done in Southern California, the following gentlemen have been requested to co-operate with the main committee, with respect to samples of wines and brandies, viz: Hon. R. F. Del Valle, Los Angeles; Hon. J. F. Crank, Pasadena; and R. J. Northam, Anaheim.

The following named gentlemen have been requested to assist the Committee in securing proper samples of raisins, illustrative of their different sections, viz: Robert McPherson, Orange, Los Angeles Co.; Col. L. M. Holt, Riverside, San Bernardino Co.; Geo. A. Cowles, El Cajon, San Diego Co.; T. C. White, Fresno; D. A. Jackson, Woodland, Yolo Co.; Hon. J. A. Filcher, Auburn, (for the foothills.)

The following extracts, from a letter addressed by Mr. C. B. Turrill to the editor of the S. F. MERCHANT, serve to show more particularly the nature of the exhibits desired and should be adhered to as closely as possible:

ARRANGEMENT BY COUNTIES.

"A careful study of the subject induces me to adhere to my previous plan of arranging the exhibits by counties, and then

grouping these geographically. Thus the visitor forms a pretty correct idea of the resources and advantages of each section. And when he passes from one county collection to another and sees the same products displayed in so many of these geographical divisions, he is amazed at the fact that so many things are produced nearly all over the State."

A GENERAL DISPLAY.

"Besides this general arrangement, I want to have sufficient of the exhibits to make general class displays. For instance, I want to get up a general viticultural and vinicultural display, which will clearly show the extent and diversity of this branch of our State's productive possibilities. I shall be glad to have all the charts, pictures, maps, etc., that I can get, which will throw light on these matters. Photographs of vineyard scenes, wine cellars, grapes, etc., are the interesting pictorial part of such a display. There should also be samples of soils from different vineyards. Vines of different ages, showing the branch and root growth. These should illustrate the growth of different varieties as well as the fertility of the soil. There should be pressed specimens of the foliage. The vines will have to be dried, and the leaves will have to be removed, they will simply show the canes and the roots. The foliage must be pressed. Then we need specimens of the different varieties preserved in solution. I have a large collection of such now. These are in a preservative solution of my own, and keep admirably, retaining bloom as well as color, form and size. I put one bunch in a jar; after the solution has permeated the berries there is no fear but what all will keep well."

WINES IN BOTTLES.

"It is important that I should have in this special display as full an assortment as possible of wines and brandies of different varieties, vintages, and from as great a number of localities as they can be procured. Two or three bottles of each would be ample for this. I would urge that for this part of the display, if no other, the bottles should be clear, so as to show the color of the product contained. I think it would be well to have these bottles accompanied by concise statements of the grapes from which made and also by an analysis. There are other points which will suggest themselves. It is important that all these vine products be put up in attractive shape. One large display of wines that came for the New Orleans Exposition would have made a better appearance had the bottles been better. Some apparently were ordinary beer bottles, and the height was not the same. This was unfortunate, and was the cause of much adverse criticism. Wine dealers urge me to impress upon our makers the importance of filling the bottles fuller, and making the capsule come down just below the top of the wine. Remember that our wines will be criticised. It is well to avoid grounds of complaint when possible."

CAPPING AND LABELING.

"Care should be taken in capping, and especially in labeling. In the collection above referred to some of the bottles had been put into the sheaths before the labels had dried, and they were ruffled up past recovery. Too much care and attention cannot be paid to all these little details. There are thousands to notice them, and much depends upon attractiveness. Then there is another point; there is a constantly present tendency to compare our wines

with the French, not alone in quality but in the style of bottling, labeling, etc. We must put our best foot forward in all particulars. Many here have objected that in our wines the bottles are not full, that is to say, there is anywhere from half an inch to nearly two inches between the top of the wine and the bottom of the cork. It is important that I be supplied with a sufficient number of duplicate labels for all bottles, in order to replace the labels in the event of their becoming soiled or damaged."

THE RAISIN EXHIBIT.

"I have not mentioned the raisin industry. This is very important. And all that has been said regarding neatness and care is applicable here. People are astonished at the beauty and quality of our raisins. I let them test them when I can. The taste thus cultivated for our products creates a local demand that must be supplied. Every one speaks of the superiority of our California products. This sampling creates the desire to purchase, and local dealers come for the addresses of those to whom they can write for goods and prices."

EACH MAKER'S MITE.

"A series of exhibitions is contemplated and the Company asks the earnest, active co-operation of all. Let no one hesitate because he can contribute but little, for his mite will help to make the mass, and in that mass his individuality will not be lost. Each man gets full credit for what he does, and all have the honor of doing something for California."

TASTING AND SAMPLING.

"There should be a reasonable supply of important wines that may be tasted by those who will be specially interested in our viticulture. This can be so conducted as to do great good. It is not necessary nor advisable to treat every man that comes along, but a little experience demonstrates who are the parties who will be the ones to assist in making a market for our wines."

NO TIME TO LOSE.

Exhibits should be properly placed at Louisville by August 15th, but it is probable that the collection may be added to, subsequent to that date. It will thus be seen that prompt action is necessary on the part of all our viticulturists.

HOW TO FORWARD EXHIBITS.

All that need be done by exhibitors, after packing, is to deliver their packages at the nearest railway station with special tags attached to them. These tags can be obtained from any member of the Central or Local Committees, or from the Secretary. They are addressed to T. H. Goodman, care of J. T. Carothers, Station Baggage Master, San Francisco, and state that the package is an exhibit for the Louisville Exposition. Mr. Carothers has received instructions to forward all packages, so addressed, to their destination without delay.

PARTICULARS OF THE EXHIBITS.

As it is deemed desirable that a record of all the California exhibits should be kept at the office of the State Commission, exhibitors are requested to forward to the Secretary full particulars of the number and nature of their exhibits in accordance with the above instructions, with detailed accounts of any special peculiarities pertaining thereto. All exhibits forwarded through this Committee will be merely on exhibition as a general State display and not for competition. They will be forwarded free of charge.

By order of the Committee,

CHARLES R. BUCKLAND, Secretary.
323 Front Street,
San Francisco, July 28, 1885.

OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO.'S STR. SAN BLAS, JULY 15, 1885.

TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
B D & Co., New York	B Dreyfus & Co.	190 barrels Wine	8826	\$ 4020
B B, New York	"	10 barrels Wine	474	180
F, in diamond, New York	S Lachman & Co.	25 barrels Wine	1147	460
A, in diamond, New York	"	5 barrels Wine	230	93
McD & Co., Philadelphia	"	10 barrels Wine	438	238
"	"	1 case Wine	5	5
L, in diamond, Pittsburg	Kohler & Frohling	9 barrels Wine	439	295
"	"	1 keg Wine	10	47
"	"	1 barrel Brandy	47	105
G in diamond, R, Pittsburg	"	5 barrels Wine	244	175
E B & J, New York	"	25 barrels Wine	1194	476
E L, New York	"	15 barrels Wine	743	315
F A, New York	"	25 barrels Wine	1235	494
P L, New York	"	8 barrels Wine	394	182
R A G, New York	"	10 barrels Wine	492	258
E C, New York	"	10 barrels Wine	490	220
J B, New York	"	5 barrels Wine	240	140
L, in diamond, New York	"	15 barrels Wine	740	296
H, in diamond, New York	"	5 puncheons Wine	783	314
F, in diamond, New York	"	47 puncheons Wine	7256	2396
Total amount of Wine			25383	\$10562
Total amount of Brandy			47	105

TO MEXICO.

A B & Co., Manzanillo	Thannhauser & Co.	4 kegs Wine	68	70
G & H, Manzanillo	"	2 kegs Wine	31	22
V V & Co., Manzanillo	"	5 kegs Wine	85	50
F J C, Colima	Redington & Co.	48 cases Wine	200	102
A D & Co., Acapulco	J Calre	4 cases Wine	20	20
S H, Salinas Cruz	Cabrera, Roma & Co.	10 kegs Wine	160	164
A H & Co., Acapulco	Urruela & Urioste	10 cases Whiskey	...	90
Total amount of Wine			567	\$497
Total amount of Whiskey, 10 cases			...	90

TO CENTRAL AMERICA.

M M, La Union	Urruela & Urioste	1 package Whiskey	...	23
J A F, La Union	"	10 packages Wine	...	75
"	"	3 kegs Wine	30	12
M M, La Union	"	2 packages Wine	...	22
De M A, La Union	Montealegre & Co	5 cases Wine	25	20
"	"	1 package Whiskey	...	18
J F C, Corinto	Cabrera, Roma & Co.	40 cases Wine	200	170
R R, La Union	"	3 cases Whiskey	...	27
F V, Corinto	"	6 cases Wine	30	22
J L, Amapala	"	50 kegs Wine	500	420
S M C J W, San Jose de Guatemala	John T Wright	12 cases Wine	60	48
G L & Co., J W, Amapala	"	2 kegs Wine	20	25
"	"	15 cases Wine	75	76
H C, Corinto	"	"	"	"
F Sal, Corinto	Thomas Bell & Co.	10 cases Wine	50	40
A C & Co	L F Lastreto	10 cases Wine	50	25
"	"	2 barrels Wine	98	49
J L D, Guatemala	B Dreyfus & Co.	8 half barrels Wine	214	125
"	"	40 cases Wine	200	150
"	"	4 cases Whiskey	...	40
J H P, San Jose de Guatemala	Schwartz Bros.	1 barrel Wine	48 1/2	39
"	"	1 keg Wine	10	15
F M T Corinto	Thannhauser & Co	5 packages Wine	...	35
Total amount of Wine, 17 packages			1610	\$1376
Total amount of Whiskey, 9 packages			...	108

TO PANAMA.

A C, Panama	Lilienthal & Co.	51 cases Whiskey	...	463
L, in triangle, Panama	L F Lastreto	12 cases Whiskey	...	72
J S, Panama	"	4 cases Wine	20	10
Total amount of Wine			20	\$ 10
Total amount of Whiskey, 63 cases			...	535

MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	REG.	GALLONS.	VALUE.
Victoria	Queen of the Pacific	Steamer	240	\$273
Mexico	Newbern	Steamer	185	130
Honolulu	Consuelo	Brig	509	386
Victoria	Idaho	Steamer	447	414
Honolulu	Alameda	Steamer	625	568
Total shipments by Panama steamers			26,246 gallons	\$18,283
Total shipments by other routes			1,907 "	\$1,771
Grand totals			28,243	15,054

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Mr. W. C. West, formerly of West's Stockton Nursery, is in charge of the propagating department. Read What Dr. Chapin, Chief Horticultural Officer Says: DEAR MR. WEST:—At my visit on Jan. 11, 1885, I could not wish to see any finer young trees. Allow me to compliment you upon your great success, which, of course, your long experience would warrant. For fine rooting and healthiness, these trees can nowhere be excelled. Yours truly, S. F. CHAPIN.

ALL LETTERS TO BE ADDRESSED TO GUSTAV EISEN, FRESNO CITY, CAL.

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FRIDAY.....JULY 31, 1885

This paper may be found on file at Geo. P. Rowell & Co's Newspaper Advertising Bureau (10 Spruce St.), where advertising contracts may be made for it in New York.

Recognition.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.

Proprietor S. F. MERCHANT.—Dear Sir: Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.

Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural interests in the State, an exponent of their views and able advocate of their interests, and, moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished.

Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandise who wish to call our attention to their goods, aid us and other Viticulturists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.

Be it further resolved that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.

C. F. RIGGS, SECRETARY.

TO WINE MAKERS.

A FIRST CLASS PRACTICAL WINE MAKER and Distiller, wishes to get employment. Will give best references. For particulars address to this office.

The Chaintre System of Pruning.

Another proof of the success of this method of pruning comes from Mr. L. D. Combe of San Jose, who has twenty acres of Pinots, Ploussards and Cabernets, in their third year, pruned by this system. The Pinots and Ploussards have suffered slightly from coulure, but the Cabernets withstand it better than any varieties he has. The grapes are set out 8 by 8 feet apart as for ordinary culture, at least 80 per cent of them are in fine shape, and Mr. Combe proposes to graft the rest if they break; he is fully persuaded that the Chaintre system will prove very valuable. He is lifting his vines with small redwood stakes sixteen inches long, 1½ inches wide and half an inch thick; they are trained southeast which gives twelve feet to the next vine, and, in two or three years, Mr. Combe proposes to pull up every other row.

EXTENDING WINE CONSUMPTION.

With the present low prices for California wines and the attempt, in certain quarters, to "bear" the market, it is absolutely necessary that every idea and every possible facility for the disposal of wines should be fully and freely discussed. The wine makers in the country districts have stocks on hand which they are anxious to dispose of. The few wine dealers in the city have, or say they have, their cellars full, and consequently have no room for further purchases, unless, perhaps, at a very low rate, when a vacant corner might be found for storage until a customer presents himself. The wine maker naturally does not feel disposed to sell at this very low rate if he can possibly avoid it. We pay seventy-five cents for our Zinfandel, the maker of which would at present obtain from fifteen to twenty cents. Even allowing that he receives twenty-five cents then we consider that fifty cents is a very good per centage of profit for the merchant and that the balance of trade is most decidedly in his favor. Of course there is a certain proportion of inferior wine made in the State, but the question remains what can be done by experienced and good wine makers who are now dependent upon their individual efforts.

One person alone, with a limited capital, as is the case with many of our grape growers and wine makers, is not generally in such a position that he can defy market prices. It is often the case that he has embarked in this industry rather more than was warranted by circumstances, or, in plain language, that he has expended the whole of his capital in starting his venture without making any allowance for market values, which unfortunately now have a tendency to decline, and the result is that he finds himself in somewhat of a straight and perhaps barely able to obtain the necessities of life. The first thing is a mortgage on his property. This tides over a season but the next one comes round with unerring regularity. Wages must be paid if the business is to be continued and man must live. In every district there are many who are situated in such a predicament as we have outlined, and whose individual efforts are valueless. But in unity there is strength. Where one alone, single-handed might fail, yet if he combined with a dozen neighbors, whose interests are of the same relation and of the same character, they may be able to succeed.

The only salvation that we can see, in such cases, is co-operation. But this is a difficult matter to attain though it should not be. In each viticultural district where every man is working, not only for his own benefit but also for that of his immediate vicinity, which indirectly redounds to his own credit, there should be perfect harmony established among all. There should be no hesitation in interchanging ideas and suggestions which are mutually advantageous. Co-operative cellars will store the wines but they will not sell them. They afford a means of keeping them until the purchaser comes round but they do not take them to the purchaser or consumer. In nine cases out of ten it has hitherto been customary to sell to the few San Francisco firms. But these days with increased supplies, are past. It behooves the wine makers to bestir themselves and take prompt and vigorous action. In addition to a co-operative cellar in each wine producing district, why should not the wine

makers co-operate to sell their wines. Those of Napa or Sonoma, for instance, might "pool" their products, say a few thousand gallons each, for sale on a well organized and mutually beneficial system. The chief requirement to ensure success would be harmonious co-operation.

It is a fact that, in proportion to the population, there is a very limited per capita consumption of California wines. The co-operative selling system might be inaugurated in San Francisco as an experiment. Let us suppose that fifteen wine makers of Napa valley pool a thousand gallons of wine each. To start the business a certain amount of capital will be required which must be forthcoming. The amount would be determined by the scale of their operations. These might be confined merely to a house-to-house canvass by agents, who should leave a small sample bottle of the wine for sale, together with a circular stating the price at which that sample and other wines could be sold for cash at every house in the city. Such an experiment has never been tried on any complete, systematic or extended scale. The expenses would be the rent of an office and small cellar, the wines being shipped as required from the place of manufacture or the central cellar. There would be a first outlay for light wagons, horses, bottles, cases and demijohns. Most of the wine sold would be probably in gallon demijohns for which a nominal charge might be made to ensure their return. There would be a certain outlay for advertising, office expenses and salaries. The salesmen should be smart, energetic men; they should collect on delivery and so place the business on a strict cash basis. Fair profits and quick returns should be the motto.

Another and more extended idea, but one which would involve a larger original outlay, would be the establishment of small "wine shops" throughout the city. Any person going into the average saloon and asking for a glass of wine will either get a thimblefull, or he would be told that "they don't keep it." A number of little "wine shops" on all the principal thoroughfares of a city, and perhaps on some of the main suburban thoroughfares, should create a demand for wine by placing it prominently before the public. A little "shop" like the average cigar store would be quite large enough for the purpose. It should be open to the street, plainly fitted, kept scrupulously clean and be known as a Napa, Sonoma or Los Angeles "wine shop." One person could attend to each; and a drink, a good one, of pure wine should be offered for five cents. If the purchaser wishes to dilute it with water, let him do so, but offer him the pure wine. There is many a man who, on his way home from work, would prefer to drink a glass of wine in this manner to going into a saloon for bad whiskey where he may be induced to treat others and so spend more of his day's earnings than he should. Place the pure wine before the public as cheaply as possible, force it upon their notice, and we venture to assert that the demand will increase. We cannot expect a general and growing consumption in the East while our home consumption is limited.

We have suggested that the retail price of the wine should be five cents a glass. Taking fifteen fair-sized glasses to the gallon this would be 75 cents per gallon, the same price as charged by city dealers. Allowing one half of this amount for running expenses, the wine maker would realize 37½

cents per gallon, as against the 15 or 20 cents that is the present average offer, if he is even fortunate enough to get an offer of any kind. Even with two-thirds of the receipts swallowed up in expenses, the net results would be 25 cents a gallon, which is certainly preferable to 15 or 20 cents. Fixing the price per glass at 10 cents would make a proportionate increase in profit, but we advocate as low a charge as is compatible with a fair return, for the purpose of increasing the consumption. Most people will adhere to wine-drinking instead of spirits, after once being broken into the habit. The details of management at the beginning of such an undertaking must be carefully planned, with a view to strict economy and so as to protect as much possible the co-operating wine makers. Many matters would have to be arranged, but at present we content ourselves with the suggestions that we have given. In the meantime we hope to learn, and shall be glad to receive, the ideas and opinions of wine makers themselves. We believe that such an undertaking as we have outlined would prove both practicable and profitable.

CALIFORNIA WINE SHIPMENTS.

The MERCHANT presents to-day the shipments of California wines, by sea, for the month of July. The figures show a continued decrease in the Panama line of shipments which are 15,000 gallons less than in the previous month. The June exports by other routes were unusually heavy, 15,000 gallons being sent to Mexico and New York alone, consequently a drop might have been anticipated for July. The total however of the "other route" sea shipments exceeds the monthly average of last year and is especially noticeable for the increase in the Hawaiian trade, which almost doubles that of June, and the shipment of 4,523 gallons to Liverpool "round the Horn." The figures stand thus:

BY SEA, JULY 1885.

To—	Gallons.	Value.
Liverpool.....	4,523	\$2,922
Hawaiian Islands.....	2,312	2,116
Nicolofski.....	1,002	862
Victoria, B. C.....	946	962
Mexico.....	528	415
Japan.....	296	533
Tahiti.....	278	236
Apia.....	26	23
	9,911	\$7,869
By Panama line of steamers..	63,133	\$31,335
Total.....	73,044	\$39,204

The Short Crop.

As the season progresses the effect of the drought is being noticed in many places in connection with the development of fruit in vineyards where the roots of the vines are not able to reach an abundant moisture. In many parts of the State, especially around the Bay of San Francisco, there was practically no rain after the month of January so that the soils in vineyards in some of the most fertile places has dried out to such a depth that the berries are now showing the effect by shriveling up; others are not developing the usual size. To what extent this will affect the vintage we cannot tell as yet, but another two weeks will tell the story. In all probability this will be another cause for a diminished vintage.

Mr. C. Aguilon, it is understood, has taken as a partner for his Livermore cellar Mr. Bustelli of St. Helena, who will have charge of the work at that place. Mr. Bustelli is an accomplished wine maker.

CALIFORNIA WINE TRADE WITH HONOLULU—HOW IT IS INJURED.

THE MERCHANT has frequently advocated an extension of the California wine trade with Honolulu and its increased consumption on the Islands in preference to spirits. We have been told by local dealers that there was but little demand for it and that it was not worth while pushing the business. Nobody hitherto has tried to do so. On all the plantations on the Islands there are managers, book-keepers, engineers, overseers and sugar boilers among whom the trade might be extended besides in Honolulu itself. Further, there are several thousand Portuguese laborers who are wine consumers and who would purchase our cheaper-classed wines. We have often wondered why there was no greater demand in this direction, but we have at length arrived at a solution of the problem which is by no means difficult to elucidate now that we know the answer.

The duty on wines in Honolulu is as follows: Over 18 and under 30-proof, \$2 per gallon; under 18-proof, 40 cents per dozen quarts, 20 cents per dozen pints and 15 cents a gallon in bulk. We pay in San Francisco for our small supplies 75 cents for a single gallon. Add to this 25 cents for freight and 15 cents for duty, it should be sold in Honolulu at \$1.15 a gallon for a shipment of a single gallon. Offsetting the extra charges for fees and cartage against a reduced price for the sale of a larger quantity in bulk the same rates should hold. Even allowing an increase of ten cents a gallon it could be profitably disposed of at \$1.25 a gallon. But it is actually sold there at \$1.75 for a gallon demijohn. This is by no means the worst case. A former resident at Honolulu, who is now in San Francisco, tells us that he purchased a case of California wine shortly before leaving and was charged \$9 for it. On remonstrating at this exorbitant outrage he was told that the duty was \$2 a gallon or \$4.80 for the case, the wine being between 18 and 30 per cent proof spirits. Now we know that California wine averages from 10 to 12 per cent alcoholic strength, and the duty collectable should only have been 40 cents. The freight on a single case would be 30 cents, allow 30 cents for other charges, allow even \$3 for cost of the wine, bottling and casing, and this would give \$4 as a fair charge with a fair profit, instead of the \$9 that was wrung out of the unfortunate purchaser.

California wine does not need fortifying for shipment to Honolulu, and to say that it is over 18 per cent alcoholic strength not only injures the reputation of our manufacture, but also tends to prevent its consumption by those who would be inclined to freely drink light wines especially in a hot climate. We do not believe there was a mistake in the Custom House in this instance because in the two cases mentioned, the wine in the demijohn and in the case were precisely of the same character. We can only assume then that an extortionate charge was made for the sake of a few dollars. Such sales will certainly prevent any large increase in this direction, and our Island friends should look to it that they are not made the victims of an unscrupulous salesman. The duty on California wines imported at the Islands should be entirely abolished on reciprocity grounds, but while it does exist it would be well that the alcoholic strength be certified to by the Hawaii-

an Consul-General in San Francisco before shipment. The danger to consumers on the one hand and injury to the California wine trade on the other would thus be obviated. A fair profit in trade is permissible but avaricious greed should not be tolerated.

JOE TILDEN'S DEATH.

The news received by the steamer Mariposa from Honolulu, on 22nd inst., of the death of Joe Tilden was a fearful shock to his many friends in San Francisco. He was a man universally known and universally liked. He never had an enemy and nobody was ever heard to say one word against him. Only a few weeks ago the writer saw him standing on the deck of the steamer leaving here for the Islands. He was full of life, health and vigor, yet, in an instant he is dead. We feel it our duty, as well as a pleasure, to record the effort made by Hon. Samuel Parker, a native Hawaiian and a true and brave gentleman, to save Joe Tilden from his untimely fate. Mr. Parker rushed into the burning building, and, with the assistance of a native boy, succeeded in rescuing Mr. Tilden's body. But it was too late; he only lived for thirty-six hours longer and all medical skill was powerless against the decree of death. For Mr. Tilden's family we express our deepest sympathy. We know his son, Charlie Tilden, who is learning practical viticulture in all its branches from Mr. J. H. Drummond of Glen Ellen. It is not saying too much to predict that he will prove a worthy son of his worthy father; he is a quiet, unassuming and hard-working young gentleman. Our old friend Mr. R. J. Creighton, now editor of the *Advertiser* in Honolulu, who occupied a room in the same cottage with Mr. Tilden and lost everything he possessed, including valuable books and papers, writes us as follows: "As I think of poor Joe's fate I am far more than resigned to my comparatively trifling loss." Among the few trifles raked from the ashes of the building, after the fire, was a document which belonged to ourselves and which had been placed in Mr. Creighton's hands to complete a business transaction in Honolulu. It was slightly scorched by the heat but was otherwise intact. It is now in the possession of Mr. Charles Tilden.

THE AMERICAN EXHIBITION IN LONDON.

One of the leading features of the American Exhibition to be held in London next year is a California wine shop. This can do much good or a great deal of harm according to the quality of the wines sold there. It should be ascertained beyond a doubt that none of the New York manufacture of chemical California Rhine wine at twelve cents a gallon be admitted into the wine shop. But the wines should be pure. There should be full information given as to their manufacture and the prices at which they can be laid down in London. The names and addresses of the wine makers who are anxious to sell should be made known. The bottles should be plainly labeled that consumers or dealers may thoroughly understand which wine suits them best or is best adapted to the requirements of the market, and from or through whom further supplies can be obtained. The Exhibition will remain open for a period of six months, from May 1st, 1886, and medals or diplomas will be awarded on the recommendation of juries composed of Englishmen eminent in each branch of exhibits represented.

THE JOINT APPROPRIATION.

Nothing has yet been done to make use of the joint appropriation for the use of the University and the Viticultural Commission for experimental, analytical and scientific work. It is now sometime since the Commission addressed both the Secretary of the Board of Regents and the Chairman of the Committee on Conference, requesting that a meeting be held to determine how the funds shall be used and how much shall be apportioned to supply the necessities of the State Analyst, Professor W. B. Rising, who is now required by law to make analyses which shall be *prima facie* evidence in courts of justice whenever needed. The Board of Regents having declined the proposition to place this fund under the joint control of the proper officers and the professors who would have the work to perform, were requested through their committee together with the committee of the Commission to determine the nature of the work to be performed under the appropriation and the necessary apportionments for the same. Mr. Ainsworth, Chairman of the Regents' Committee, stated three weeks ago that he would be ready to meet with the Committee of the Commission but as he has not thus far done so an annoying delay is occasioned. This is more particularly the case with respect to the office of the State Analyst who is a professor at the University and who requires the appointment of an assistant and arrangements for perfecting his work. Samples for analysis are beginning to accumulate in the office of the State Viticultural Commission but nothing can be done with them at present until the Board of Regents will take action so that the funds may be provided for legally. An effort will be made by the Commission this week to bring about a meeting in settlement of this question so that the work during the vintage may go on effectively. Under the law providing for a State Analyst all parties desiring analyses of viticultural products, wines, brandies, etc., are required to forward the same to the Secretary of the State Viticultural Commission on whose demand the State Analyst will perform analyses, reporting to the Commission from time to time as fast as the work is performed. As this work will no doubt go on, even though the Commission is obliged to provide funds for it at the sacrifice of other work if the Regents continue inactive with reference to the joint appropriation, those who have samples of wine of special importance, especially where the same are diseased, can forward them to the Secretary of the Commission where they will be numbered and preserved for use as soon as the State Analyst is ready to work at them which of course will not be much longer delayed.

The Bauer Remedy.

Mr. F. W. Morse, the special inspector of the State Viticultural Commission, has again examined the vines treated at Sonoma with Dr. Bauer's supposed mercurial remedy for phylloxera. In one case experiments had been made to determine whether a soil impregnated with the finely divided metallic mercury would prove a barrier to the passage of the phylloxera, and to that end diseased vines had been cut off below the surface, leaving the diseased roots in the ground, and young healthy vines had been planted over them, the roots being enveloped in a soil impregnated with the mercury. Mr. Morse found that the phylloxera had passed up from the diseased roots be-

neath and covered the roots of the young vines planted over them in the midst of the soil impregnated with the mercury, and were apparently flourishing and healthful, thereby proving that the presence of the quicksilver in the soil about the base of a vine would not prove an impassable barrier.

Mr. Wetmore's Visit to the East.

Since the announcement of the proposed visit of the Chief Executive Viticultural Officer to Washington, New York and other points East, letters have been received at the office of the Commission from parties in New York, who are warmly interested in this enterprise, counseling the postponement of this work until the heated Summer weather is passed, as it is almost impossible now to get people together at public meetings. For this reason Mr. Wetmore, after consulting with the officers of the Commission, has determined to postpone his departure until about the first of October, which is, after all, a wise proceeding, because he can then, after studying the situation, remain in Washington until the opening of Congress.

Fungoid Diseases.

The recent work on fungoid diseases of the vine published by Pierre Viala of the National School of Agriculture of Montpellier, France, is now being studied at the office of the Viticultural Commission and is found to contain more information than could be heretofore acquired from other sources. It is hoped now that by means of this work the distinctions between the different varieties of fungus which attack the vine may be recognized and the appropriate remedies devised. Already, from studying this work, it appears that many of the different forms of the so-called "mildew" in this State may be classified and treated according to experience that has proved the efficacy of remedies.

Journalistic Enterprise.

Though we do not always agree with the opinions expressed by the *Chronicle*, yet we admire and commend the journalistic enterprise shown by the publication of its second edition, on the morning of 23rd inst., containing full particulars of the life and death of General Grant, which was on the streets within a couple of hours of the receipt of the news of the hero's decease. The *Chronicle* far out-distanced any of its morning contemporaries in San Francisco.

A Mistake.

Mr. E. W. Maslin, one of the Committee who signed the resolutions relative to the State experimental wine cellar, at the last Annual Viticultural Convention, states that an article on the subject that recently appeared in the *Sacramento Bee* is not a perversion of the truth but a deliberate misstatement of facts throughout. He is surprised that the paper in question published it as it should have been better informed.

Louisville Exposition.

Wine, brandy and raisin makers, who desire to enter their exhibits at the Louisville Exposition for competition, can do so on payment of a fee of five dollars. They should communicate directly with Mr. C. B. Turrill, Galt House, Louisville, as the exhibits forwarded through the instrumentality of the Committee appointed by the State Viticultural Commission will not be for competition.

Father Noah.

The following is an original translation from the German, for the New York *Wine Press*, by one of the most accomplished scholars and adepts in this line in the country. It was doubtless after the perusal of this poem that N. P. Willis once objected to the drinking of water, that "since the flood it had tasted of sinners!"

FATHER NOAH.

When Father Noah left the ark,
The Lord drew near the patriarch,
And said: "Thy incense pleases me;
I will be gracious unto thee.
A very pious house hast thou,
So ask of me some favor now."

"Dear Lord, exceeding bad," said he,
"The taste of water is to me,
Because all things corrupt therein,
Both man and beast, are drowned for sin;
Thy servant grant in his old age
Another kind of beverage!"

The Lord reached up to Paradise,
And handed him a vine-stock nice,
And counselled him on every head;
And "Take good care of this," he said,
And told him all things, so and so.
Old Noah's face was in a glow.

His wife and children he did call,
And mustered up his household all;
And planted vineyards far and near,
For Noah was no fool, 'tis clear;
Built cellars then, and pressed the wine,
And filled his casks with liquor fine.

Old Noah was a holy man;
Cask after cask was tapped, and ran;
They drank of it with one accord,
And as they drank they praised the Lord;
Drank Noah, when the flood was o'er,
Three hundred years and fifty more.

IMPROVEMENT.

A wise man reads a lesson here:
Good wine he has no need to fear;
And item: No good Christian thinks
To mix in water when he drinks,
Because all things corrupt therein,
Both man and beast, were drowned for sin.

By way of an anchovy, we have added a translation of another song from the French, by our accomplished friend Pynnshurst; and as this reminds us of the song of Doctor Luther, published in the August number of the *Wine Press*, it may not be out of place to interpolate here also,

AN ANECDOTE OF CALVIN.

The late Albert Gallatin, President of the Historical Society, related it to the Hon. Gulian C. Verplanck, from whom we get it. Several years ago, a number of Calvin's letters were found among the archives of Geneva, some of which, relating to his domestic affairs, exhibit a curious picture of the daily life of this great Presbyter, and illustrate strikingly his peculiar habits and temper. In a scolding letter to the syndics, or magistrates of Geneva, he complains that they have filled his cellar with wine of poor quality. "I do not keep open house," he says, "nor do I entertain many guests at my table, and therefore the quantity you have sent me displeases me, as well as the quality. I wish, therefore, you would take it away and replace it with something that I can drink; I do not want much, merely enough for my own use and that of my family; a few barriques, (barrels of about forty gallons each), say four or five, will be sufficient for me, once a quarter!"

We are afraid the Presbyterians of this country have been tremendous backsliders. When shall we see such men as Luther and Calvin? But we forget the song. Here it is:

"A LA SANTE DE NOE
PATRIARCHE INSONE."

To the health of Noah drink,
Patriarch undaunted!
Him who was the first to think
How vines should be planted;
He was told to make a boat,
Which upon the wave should float,
For a refuge sure-a
While the deluge should endure-a.

When the Red Sea did appear
To the Egyptians, think it!
Pharaoh thought, as I hear,
That he needs must drink it.
Moses knew by right divine,
It was water and not wine.
So he did not stop-a
Nor touch a single drop-a.

What although we are not here
In the time of Moses,
Yet our faith as sure as e'er
In the Church reposes.
Like her saints through all their line
Let's ahn water, let's drink wine;
Give the heretic-a
Cold water till he's sick-a.

Gypsum in Wine.

Some twenty years ago the alarm caused by Dr. Thudichum's (probably exaggerated) notions about sulphuric acid being generated by plaster of Paris employed in the vintage caused discussions pro and contra. The matter was taken up in France until a prohibition of gypsum above a certain dose ensued. The most recent issue in this matter is a decree of the Government of Italy, of which the following are the salient points. The decree is dated Rome June 9, and directed to the municipalities of the Kingdom, some of which had interdicted the production and sale of wines, which had been plastered, in their jurisdictions.

"Once before," the text of the decree runs, "the Superior Council of Health had emitted the opinion, based upon analysis and studies, that plastered wines could not be considered as unhealthy, nor, a simple plastering as an adulteration, but only as a process proper for vinification and clarification and for the better preservation of wine."

Both for the importance the matter possesses for the health of the community and for the interest of the wine industry and commerce, the Minister of Agriculture has submitted it to the Council, which, in a meeting on May 31st, confirms its former views after having weighed and studied the question anew. Thus plastered wines are inoffensive to public hygiene, and a good and legal merchandise.

The Council bases its opinion upon the following reasons: Plastering is neither sophistication, nor a fraud. It is an operation by which tartaric acid is precipitated in the shape of tartrate of lime, causing a quick clarification and preserving the wine from the divers tartaric fermentations.

By the chemical changes inherent to the operation the cream of tartar is replaced by sulphate of potash, and in the wine remain only feeble traces of tartrate and sulphate of lime.

The pernicious effects of plastered wine are suspected by some chemists who believe the salt of potash to be an acid sulphate rather than a neutral one.

This hypothesis is not corroborated by sufficient experimental proofs.

A certain dose of potash sulphate exists materially in all wines, and in some wines reaches a high proportion without these wines being rendered less wholesome nor less esteemed by commerce.

There are no facts which attest that plastered wines have done any injury to the health of their consumers.

Numerous experiments have not overthrown the observations of the common practice of plastering carried on from immemorable times. It is not proved that inconveniences to health attributed to the plastering of wines are derived from that cause rather than from other substances introduced with intention to cure some illness.

Numerous hygienists affirm the innocuousness of plastered wines, and the French committee of health has declared the same on several occasions.

No restrictions are therefore to be put in Italy on the process of plastering wines.

F. PDFF.

Gustav Eisen of the Fancher Creek Nursery, Fresno, is already issuing advance circulars of his specialties for the coming season. Copies can be obtained upon application.

The Vine Phylloxera.

[Castner's Monthly and Rural Australian.]

The appearance of the dread vine disease in New South Wales is a matter of the deepest concern. For a short time after its reported appearance in a vineyard at Camden, there appeared to be some hope that some other insect had been mistaken for it, but this has been ruthlessly dissipated, as the destroyer has made its appearance at other places, at a considerable distance from the one where its indications were first noticed. Severe measures will be rendered necessary to stamp out the pest, and it is to be hoped that no vignerons, from a sense of false security, will hesitate to give information when the slightest indications of its presence may be discerned.

The following description of the phylloxera is taken from Mr. H. Bonnard's Reports to the Government:

"The Phylloxera vastatrix is a very small beetle, measuring not more than an eighth of an inch in length. It has four wings and six legs and a sucker, which it dips into the roots of the vines to absorb their sap. It is rather oval in shape, and has two horns on the head. Its color is greenish yellow, and it is not easy to distinguish it with the naked eye until familiarized with its appearance; even a strong magnifying glass is required. It takes four or five distinct forms: first an egg; then a small puceron, oval and yellow. When it becomes a chrysalis it is somewhat larger and more yellow; and when a perfect insect it has wings, and nearly one-eighth of an inch in length. It has two kinds of existence, one under ground, and the other aerial, and possesses wonderful powers of multiplication, as well as spreading itself over a large extent of ground, and of traveling long distances in a short time, although the underground beetle remains in a state of immobility so long as the roots of the vine on which it fastens can afford it sufficient nourishment.

"On the leaves of some vines the Phylloxera causes small galls which it fills up with eggs. These, however, have never been detected on European vines, but only on those of American origin. The damage is done only to the subterranean parts of the vine. It produces long irregular nodosities on the roots; in summer after these disappear, the roots become rotten and the vines die from exhaustion. Remedial measures are as follows:

"1. The destruction of the winters' eggs by soaking the roots of the vines and their stalks with boiling water and the surrounding ground; or after the pruning is finished by whitewashing with insecticides, such as coal tar oil, mixed up with warm water.

"2. The submersion under water for forty days in winter where practicable, thus suffocating the insects by drowning

"3. The sulphuret of carbon, injected through an apparatus in the ground during winter.

"4. The sulpho-carbonate of potassium, washed down by rains either in summer or in winter, by digging small holes round the vines into which the material, mixed with water is poured."

Cloverdale Vitiiculturists.

From the reports in the *Cloverdale Sentinel* and *Reveille* we learn that, at the last meeting of the Cloverdale Vitiicultural Society, it was decided that, in consequence of the district being now free from phylloxera, every endeavor should be made to have

all cuttings disinfected that were received from other districts. A trough will be placed at the depot where the disinfecting process can be performed on receipt and before shipment of all cuttings. In order to ascertain which varieties of grapes are best adapted for that section, it was suggested that the Society obtain a small piece of land for use as an experimental plot where individual vineyardists can graft different varieties, and, by the wine made therefrom, it can be definitely ascertained what should be chiefly and permanently cultivated.

A Healthy Growth.

The successful career of the Mutual Reserve Fund Life Association is marvelous in the annals of life insurance enterprise. Its name has become a tower of strength—and has been well earned by the untiring devotion of President Harper and his associates. Its astonishing prosperity has provoked attacks which are best repelled by a frank and full exhibit of its greatly increasing line of business. Up to July 1, 1885, this shows a gain of no less than \$13,214,500 over that of the corresponding period last year. In June alone its mortuary receipts exceeded 250,000, of which over \$60,000 went into the Reserve Fund—that triple buttress upon which the Association justly prides itself. This reserve now amounts to \$425,000, and is employed for three purposes only—to pay death claims if any should occur in excess of the American Experience Mortality Tables; to make good any possible deficiency in the Death Fund account; and to be apportioned among those who have been members of the Association over fifteen years, etc. As the first and second contingencies named are not likely to arise, the third object is the one upon which the fund is practically expended. It is full of other good points, among which may be mentioned the economical salary list—less than \$50,000 for carrying on the whole work of the vast institution—and payments to widows and orphans at the rate of over \$2,000 cash each day.—*N. Y. Journal of Commerce.*

Mr. H. W. Severance.

This gentleman, who for the past seventeen years has occupied and satisfactorily filled the position of Hawaiian Consul to San Francisco, will remain in this city and devote his whole time in future to the establishment of a complete and systematic general commission business. Our Island friends are so much better acquainted with the business capabilities of Mr. Severance than we are, that it seems almost superfluous on our part to urge them to recognize his previous, unceasing efforts on their behalf by giving him a share of their patronage. We can safely say, however, that his intimate connection with the Islands and with San Francisco business men affords an opportunity to both, for mutually beneficial transactions, that is seldom attained. He proposes not only to receive and sell on commission, consignments of Hawaiian produce, but also to fill orders for supplies that may be required by planters and merchants on the Islands. Mr. Severance will continue to occupy his former office at 316 California street and he has our best wishes for his future success. California fruit growers and wine makers should communicate with Mr. Severance when desiring to extend their business connections.

Who Shall Pack Our Raisins?

EDITOR S. F. MERCHANT:—For several years past the proposition has been repeatedly made that our raisins should be packed by certain packing establishments and not by the raisin producers themselves. This should be in a *supposed* imitation of the way the work is done in Spain. It has been argued that the raisin makers were not able to pack uniformly enough themselves, and that no California brand could be established as long as every one packed for himself. We believe that these propositions have originated from the evident fact that much is yet to be done and learned in regard to packing and it was supposed that the raisin makers had no opportunity or no faculty to learn it themselves. It is our opinion that this is entirely wrong, and that no establishment outside of the raisin producers can be or should be, trusted with the packing. It is true that the way this has been done so far is very far from satisfactory, but we believe that in this as in other cases, the difficulty will regulate itself. There is another industry analogous to the raisin packing, from which we can learn much, and which should be a guide to the raisin makers, as well as a warning to them. I mean the canning of fruit and the canneries. How then has this industry, this, the fruit growers' public benefactor, been conducted? It has certainly not contributed to enhance the value of our fruit though we must confess it has succeeded in establishing a uniform brand, but unfortunately a uniformly bad one. And so bad has this canning been conducted that the fruit industry is in danger of being brought down to its lowest level, and our fruit has gotten in such a disrepute, because so unpalatable and poor, that the public now hesitates to buy the tin-canned fruit and it dreads our jams and jellies. It has been conducted so badly that the public generally sees the necessity of a new industry, the preservation of fruit in glass jars, in order that the buyer can tolerably well know if he is being imposed upon or not. The canneries had no real interest to establish reputation and encourage fruit growing, have had no interest in prosperity of the fruit raisers, and as a consequence it has followed—perhaps from business necessity and as a natural effect of the system—that when fruit was low and could not bring the former profit, the canneries were shut down, or no price was paid for certain fruit. The fruit raisers were again thrown on their own resources, had to *can* privately, *dry* their fruit or feed it to the hogs.

Now we believe that this is exactly the way it would happen with the raisin packers. The packer, having no further interest in the business than to make as much money as possible out of his present packing, will care very little to establish an industry. He will endeavor to make all he can out of wholesale and bulk, but he will not pay *that particular attention to every packing*, that alone will give reputation to the trade and the industry. But the worst of all will be that in poor years, when either the raisins are poor or when prices are low, the packer will either shut up shop, or combine to abnormally lower the prices, or threaten to buy no raisins. Raisin makers not being prepared to pack will be at their mercy at least for a season or two. Who then shall pack? It is evident that the small raisin producers can not do it. If every one who raises a few acres of

grapes should endeavor to pack his own raisins, such a multiplicity of brands of different qualities would be thrown on the market that the confusion would be general and the injury great. As long as the raisin production has been small no great evil has ensued, but with the proportions that the industry is now taking with the coming into bearing of our numerous new vineyards a uniformity is absolutely necessary. We believe the proper packers will be the larger raisin producers. Those who themselves own large vineyards, large enough to warrant them to engage properly in the packing business, erect large packing houses and dryers, procure the necessary fancy papers, engage skillful superintendents and skillful labor, and in fact who can afford and who must afford to do the thing as it must be done. Such packers must pack their own crops every year whether the price is low or not, and it will always be to their advantage to pack well, establish certain uniform brands and a reputation. Let us therefore discourage outside packers if any there should be and let the packing be trusted either to corporations of small raisin growers or to private large raisin makers, who must pack for themselves and are willing and find it to their profit to pack for others or buy their grapes. It has further been argued that it should be necessary to stamp all raisins as California raisins *only*, and to drop local names, such as Riverside, Fresno, etc. We can see no advantage of this. California will naturally clearly appear somewhere on the box, and we see no inconvenience of the local name any more than that caused by calling certain raisins *Valencias* or *Malagas*.

The Spanish packers who always also are large vineyard owners attach their names to the brands and I see no reason why we should not do the same, provided we also and prominently retain the once established brand, be it *London Layers*, *Loose Muscates* or something else.

GUSTAV EISEN.

Fancher Creek Nursery, Fresno, Cal.

The Raisin Crop.

The MERCHANT, in its last issue, estimated the coming raisin crop at 210,000 boxes and deprecated the customary "enormous yield" cry when not warranted by facts. We further pointed out that such statements would redound to the loss of growers as the dealers and commission agents would naturally depreciate values to subserve their own interests. The truth of our statement can be found in a circular of Geo. W. Meade & Co., published after our article, in which they state that "it is estimated" the raisin crop will reach 400,000 boxes or over. From their standpoint as purchasers of raisins this estimate is all right, but when the raisin maker wishes to sell and is told that the crop is double that of last year, and that the demand has not increased, consequently the price must be one-half what it was last year, then the raisin maker will begin to feel and appreciate the force of our former remarks. This firm's advice is "to buy California raisins this year as you need. It is known the crop is heavy and we look for low prices." It is not by any means known that the crop is as high as the "it is estimated" crop of Geo. W. Meade & Co., but it is known that their interest as dealers is naturally to depreciate values when purchasing.

Wine making in Fresno will probably commence next week.

California Raisins and the Tariff.

[Correspondence Bradstreet's.]

SIR—In your issue of June 20th, in an article on raisins, I see the following: "It is a strange coincidence that this country and Great Britain should place a duty upon raisins. In this country it is 2 cents a pound and in Great Britain 7s. per cwt. or 1½ cents a pound."

The California crop of raisins for 1884 was estimated at 175,000 boxes of 20 pounds each, or 3,500,000 pounds. The estimated production for 1887 is 1,000,000 boxes, or 20,000,000 pounds. The area planted in raisin grapes in this State was estimated for last year at 12,250 acres. The chief objection to the sale of our fruit in the East has been that they are packed in 20-pound boxes instead of in 22-pound packages, the same as the foreign raisins. The Eastern merchants, instead of making a difference of 10 per cent, make a difference of at least 15 per cent. Consequently our raisin makers suffer a loss on this account.

Were it not for the duty on raisins in this country California makers could not live at the business. The price of best London Layers in Boston last season was \$2.85 a box and in Chicago \$2.95. Best quality California raisins, being 10 per cent less in weight, should have brought \$2.65 in Chicago, but the highest price realized was only \$2.35, and that in very exceptional cases. The New York quotations for London Layers last season were from \$2.60 to \$2.85, but it costs Californians more to place their goods in that market than it does in Chicago.

The cost of putting up a box of raisins, including the fruit, in California averages \$1.50. This is a low estimate. The average price obtained for this crop in 1883 was less than \$1.50 a box. The cost of labor here is from \$1 to \$1.50 a day, whereas in Malaga it is from 30 cents to 45 cents a day, including board. The Spanish crop is mostly cured by September 1, and shipments are often made to New York by August 20, before the California grapes are ripe.

The California market is very limited, so that the makers are compelled to ship East, and, in order to compete against the early imported goods, they must do so by fast freight at \$800 a carload of 10 tons, or an additional cost of 80 cents per box, making at least \$2.30 in all. To this must be added commissions and a small percentage for loss and breakages.

It will thus be seen that with the present tariff of 2 cents a pound California raisin makers cannot compete in Eastern markets with imported goods. The Malaga crop of 1883 was an unusually large one, and was placed in New York at from 75 cents to \$1 a box. The California raisins in the same season were forced down to \$1, and even 65 cents a box in some instances. The matter simply resolves itself into a question of tariff, whether the introduction of foreign goods made by cheap labor shall be permitted to undersell our domestic labor, which is paid for at much higher rates. If so, the raisin makers of California must relinquish their business.

San Francisco, June 29, 1885.

WM. T. COLEMAN & CO.,

COMMISSION MERCHANTS.

SAN FRANCISCO,

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MARKET & MAIN STS., S. F.

Olive Cultivation in Turkey.

[Wynberg Times.]

Olives grown in Turkey receive little cultivation after the young trees reach maturity. At the end of the autumn, or early in winter, a trench of two to three feet in diameter and from eighteen to twenty-seven inches in depth is dug round each young tree, and filled with manure, more or less rich, according to the age and strength of the tree. The manure is well covered with soil, so as to prevent it being disturbed, and to keep it as long as possible in the position best fitted to feed the roots of the tree. The ground between the trees is generally neglected. The olive tree usually comes into full bearing about its twenty-fifth year when it has been grown from slips, but when grafted it yields abundantly between its eighth and twelfth year. In both cases it continues to produce largely, every alternate year, for about fifty or sixty years, and if cultivated it will continue to yield, though less largely, up to the age of one hundred years. Under ordinary circumstances a young healthy tree that has reached maturity will produce about eighty-two pounds of fruit in a poor year, and, with careful cultivation, the same tree will yield in a good year double that quantity. The trees vary in yield every alternate year. An acre will contain 120 trees, and each tree will yield an average of 100 pounds of fruit, so that the produce per acre will be about 12,000 pounds; and as it takes about sixty pounds of fruit to produce one gallon of oil, the yield per acre would be two hundred gallons. When olives are intended for pickling, a small portion is plucked while green to be pickled in that state, but the larger portion of the fruit intended for preserving is gathered when it has fully ripened and has turned black; in Turkey it is preferred in this state, and after being washed, is packed in cases in its natural state. The casks have a small hole bored in the bottom to allow the water to run off slowly. They are filled with olives to about three inches of the top, and the cask is then filled to the brim with fresh water once in twenty-four hours, until the bitter taste of the fruit has almost passed off. The hole in the bottom is then plugged, an aromatised pickle is poured on the fruit, and, after the pickle has taken effect, a little oil is added, to soften the olives and reduce any bitterness that may remain in excess of what is required to large consumption of black pickled olives. To preserve black olives for the table, the fruit is packed in casks or boxes with a large layer of common salt, three-quarters of an inch thick at the bottom. On this is laid a layer of olives, about two and a half to three inches in depth, upon which a light covering of salt is sprinkled, and so on until the cask or box is filled, the upper layer of salt being deeper than the others, except the lower one. The staves of the cask are left loosely bound to allow the bitter water from the olives to drain off. In preserving green olives, the fruit, give them piquancy or an agreeable flavor. In extracting the oil the method practiced in the interior of Turkey is the same as was employed in the earliest ages. The fruit is collected in a large receptacle near the mill where the crushing is done; this mill is simply a large circular shallow tank with an upright beam in the center, which runs through a large circular stone and serves as a pivot around which the stone revolves. A horse harnessed to a

it slowly and laboriously in motion. An improved apparatus has lately been introduced; this consists of two stones attached to the horizontal pole, and which are dragged round with it. When a sufficient quantity of the fruit has been thrown into the tank the machine is set in motion, and a man precedes the horse with an iron pole to push the olives under the stones. After a short time about two gallons of water at boiling heat are poured in to assist the action of the stones, and more is added as required, until the mass acquires the consistency of a thick paste. The mass is then put into a large jar and conveyed to the press, where it is kneaded with more hot water into a square cloth of coarse material, which will bear the greatest power of the press without bursting. The paste is then formed into a square flat mass, the cloth being neatly folded over it, and tied with a cord attached to each corner, and it is then replaced in the press. The press is turned down by means of a hand lever, and when more power is required a rope is carried from the lever to an upright beam at some distance which is rapidly turned. The oil and water which are expressed, run into a trough which is roughly hewn from wood. This trough is divided into two parts longitudinally by a partition, which comes up by about two inches below the level of its sides, so that when the oil and water run in together on one side of the partition, the oil coming to the surface floats over to the other side, while the water is conveyed away by a pipe placed at the level at which it is desired to maintain the water within the trough. After the press has been screwed down as far as it will go, it is loosened, and hot water is poured upon the pile to wash off any oil that may remain on the cloths, and they are kneaded without being unfolded. More boiling water is poured upon each package, and they are again placed in the press, to be again removed and undergo for a third time the same process until no oil remains. The oil comes out a light green color, and is poured into a large jar near the press, whence, after depositing any water or dirt it may contain, it is poured into skins. It is next emptied into large earthenware jars, four or five feet in height, where it remains for at least two months until all impurities are deposited.

Pourridie in Vines.

[Wine Trade Review.]

MM. Foex and Viala have communicated to the French Academy of Sciences the results of their experiments on this disease, conducted in the viticultural laboratory of the agricultural school at Montpellier. Previous experimenters have assigned the maldy to those mycelia known under the somewhat vague term of fibrillaria, the numerous forms of which seem to have a common origin. Roots of the vine covered with these have produced a number of fungi of the genus *Psathyrella* not identifiable with any known species, and provisionally christened *P. ampelina*. Last year M. Hartig described for the first time the characteristic fructification of a parasite, which he named *Dimanotophora necatrix*; at the same time he attributed to it the fibrillaria just named, and stated his conclusion that the parasite was the cause of pourridie. MM. Foex and Viala have found, however, that *P. ampelina* never develops upon a healthy plant, but only on roots or bark already decomposed; hence

it can neither be a parasite nor the cause of pourridie. They examined a number of roots of the vine derived from the Hérault, the Aube, Roussillon, and from a vineyard near Yeddo, in Japan, all showing symptoms of the disease. When cultivated in a medium saturated with moisture, flaky white filaments appeared, assuming later a mouse-grey, and then a brown tint. Some remained white, and these produced by concentration the rhizomorphic strings of pourridie. Two months afterwards the fructifications of *Dimanotophora necatrix* were conspicuous in great numbers; they were most numerous and their filaments most abundant in damp places, especially under water. The parasitic character of this fungus is placed beyond doubt. Healthy vines inoculated therewith, and cultivated in pots supplied with excess of moisture, die within six months. The disease is prevalent in the South of France, in Provence and Roussillon, also to a less extent in other regions. It is chiefly found in soils too retentive of moisture. The most successful remedy consists in the purification of the soil. The diseased stock should be uprooted before the occurrence of complete development, lest it become a center for the dissemination of the disorder. The conclusion at which MM. Foex and Viala have arrived is that the parasitic fungus *Dimanotophora necatrix* is the invariable cause of the disease, which may be distinguished in its early stages by the soft swelling between the bark and the wood of the root and by the rhizomorphic filaments upon the surface.

American Wines and Brandies in Europe.

In acknowledging the receipt of the "Report of the Third State Viticultural Convention," held in San Francisco, December, 1884, the American *Eagle* says: "It is by means of meetings of this class and character that progress is insured in the steady improvement of our products and manufactures, and it is through the American Exhibition next year that the result of such meetings is ascertained. American wine and brandy are as yet unknown in Europe. If fairly represented in 1886 there can be no doubt but that they will obtain a sure foothold, and thus open up a new and important market for one of the most valuable products of the United States. There should be formed at once a responsible committee of wine growers, and a complete and exhaustive exhibit secured."

Sample copies of the MERCHANT will be sent where requested by our subscribers.

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OLIVES. OLIVES.

I wish either to go in with some one, or to form a Company to plant olives extensively. I have many thousand and fine two-year-old trees.

W. A. HAYNE, Jr.,
Santa Barbara, Cal.

The Contest Settled.**The Documents Speak For Themselves.**

Below We Publish the Awards as Given--Diploma, Gold Medal and Special Mention.

HIGHEST AWARD

-- AT THE --

New Orleans Exposition

-- TO THE --

ANTISELL PIANOS

-- OF --

SAN FRANCISCO, CAL.

IT WILL INTEREST THE MUSICAL PUBLIC AND persons interested in the purchase of Pianos to read the following Jury's award and congratulation of the United States Commissioners at the New Orleans Exposition to the T. M. Antisell Piano Company of San Francisco, Cal:

THE WORLD'S INDUSTRIAL AND COTTON CENTRAL EXPOSITION. NEW ORLEANS, May 29, 1885.

MESSRS. T. M. ANTISELL PIANO CO.—GENTLEMEN: At the closing of the World's Industrial and Cotton Centennial Exposition, allow us to congratulate you on your success in being awarded the highest award of merit for your Pianos over all American and foreign exhibitors and competitors. That a California manufacturer should win the first prize for the Best Piano in the World we consider well worthy of mention by United States Commissioners of this Exposition.

Frank Bacon, Prest, Bd. U. S. Com.,	Kansas,
George L. Shroup,	Idaho,
Robt. W. Furnas,	Nebraska,
John C. Keffer (acting),	Ohio,
R. E. Flemming, United States Com'r,	Dakota,
John S. Harris,	Montana,
E. W. Allen,	Oregon,
F. M. Murphy,	Arizona,
F. W. Noble,	Michigan,
W. H. Sebring,	Florida,
P. M. Wilson,	N. Carolina,
J. C. Truuan,	New York,
E. Spence Pratt,	Alabama,
E. L. Koche,	S. Carolina,
C. J. Barrow,	Louisiana,
Henry Merrell,	Wyoming,
P. Langhammer,	New Mexico,

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION, NEW ORLEANS.**JURY REPORT**

Application No. Special.
Group Class

COMPETITION.

The undersigned jurors in the above entitled class having carefully examined the exhibit made by the ANTISELL PIANO COMPANY OF SAN FRANCISCO, CAL., and all competing exhibits, concur in recommending the award of a FIRST-CLASS MEDAL AND DIPLOMA, THE HIGHEST AWARD OF MERIT FOR PIANO EXHIBIT FOR STRENGTH, DURABILITY, EXCELLENCE OF TONE, AND FOR THE SUPERIOR QUALITY OF LUMBER USED IN THE CONSTRUCTION.

Dated this 27th day of May, 1885.

JAS. C. TRUMAN, } Jurors.
FRANK BACON, }
GEO. L. SHROUP. }

It will be observed that the President of the United States Board of Commissioners, Governor Bacon of Kansas, was also a member of the jury that gave the Antisell piano award; also Colonel Truman of New York and Colonel Shroup of Idaho. These gentlemen not only signed our jury report, but also the special mention. We thus give positive proof of our victory. Four other awards are claimed by piano manufacturers, but we have never seen any evidence of their premiums, not even to the value of a leather medal—simply their own assertion. False telegrams and publications from New York won't humbug Californians. It won't do to say that the Antisell pianos were not entered for exhibition or competition. No piano could be got into the exhibition unless regularly entered. New York manufacturers are trying to break down our awards, as they don't like to see San Francisco carry off the honors.

T. M. Antisell Piano Co.

24 to 28 ELLIS ST., S. F.

SILK CULTURE.

Feeding and Raising Silk Worms—The Space They Require—Colors of the Cocoons—Odd Habits.

[By Miss Nellie Lincoln Rossiter, Practical Silk Culturist, New Lisbon, Burlington Co., New Jersey.]

WHAT SHALL THEY EAT?

Try dandelion. At first there will be but little change, but in a short time they will take to it daintily, feeding now here, now there, choosing only tender morsels and ever reaching for something better. Sometimes they will do pretty well on it exclusively until after their first moult, then the tender, delicate things turn from it in disgust and die. Others seem to do better for awhile, but the progress is slow, and we have not heard of cocoons being produced by feeding on dandelion alone. Its use seems to be advisable only as a substitute to sustain life when the worms have hatched before their natural food, the mulberry, has come into leaf. In one case I saw thousands of worms fed upon dandelion for over a week, at the end of which time mulberry leaves had opened and they were fed to them. They seemed to thrive beautifully for eight or ten days, when numbers of them swelled to enormous size, turned soft as jelly and died. By the time there should have been a harvest there were but a few dozen of thin, poor cocoons.

The questions rise: Were the worms too greedy when given their natural diet and did gluttony bring its consequences? Was it the fault of the dandelion? Did the combination of food destroy them or were they diseased stock?

Some persons have been so far successful in feeding lettuce as to produce a few small cocoons, the silk from which was fine and delicate in the extreme.

Osage orange leaves have been very successfully used by some, who claim for the silk so produced greater strength, if a little coarser fibre, and greater brilliancy. We have not fed it alone, but we have taken worms that were pretty well advanced on mulberry, given them osage, and watched them carefully to find them roaming off and starving to death in preference to taking the coarser diet.

Reversing the experiment, we gave osage alone until the first moult, took half and continued with it, the other half we gave mulberry. In an incredibly short time the mulberry was entirely gone, the osage still holding its own against the not too eager feeders. We placed the trays containing each a short distance apart, re-filling them with fresh, crisp leaves of their respective kinds and watched for the result.

The mulberry feeders began as eagerly as if half starved. A few began to eat on the other, but many heads were raised and swayed about, and bodies uplifted almost to full length, and in a few moments there were but a few laggards nibbling at the osage, while the other tray was reinforced by a lot of eager, squirming recruits, who came to perfection at the same time with the rest, and spun as good cocoons as any.

A thousand worms can be conveniently kept in an ordinary collar box until they are a week or ten days old, and the consumption of food will be very small and the trouble of keeping not to be mentioned. After the second moult their capacity for food increases wonderfully and their growth is remarkable.

You watch their progress day by day and feel as though numbers had been added,

their demand for more room is so peremptory. If you do not give it they will take it, crawling where they list, without regard to propriety. They never travel far, however, but can easily be kept in bounds by proper feeding.

NOTE.—A worm that has wandered beyond the reach of leaves will be found to have tried to spin a web in which to enclose itself as it slowly starved, even though it was some distance from spinning time when it strayed.

CAPACITY FOR FOOD BEFORE SPINNING.

As the worms grow larger the sound made by their feeding when a crisp lot of leaves has been given resembles a shower of rain, and a very few minutes is sufficient time for the demolition of leaves, shoots and even the bark of strong branches which you would be excusable in supposing might last them half a day.

From the last moult until spinning time it seems almost impossible to satisfy their craving. They feed with a nervous eagerness, choosing the strong bright leaves that have sprung into vigorous growth after a shower, leaving the more delicate morsels for younger relatives. Their growth at this time is very rapid, and they gradually become almost transparent, then the appetite at last fails, the creatures turn forever from their food. No coaxing with choice morsels meets with success, they turn away as though disgusted, grow clearer and softer, wander away to some convenient spot and begin the work of beauty that is destined to help in swelling the revenue of nations.

PROBABLE COLORS OF THE COCOONS.

And now an observant person can almost predict the colors of the cocoons that will be spun. The yellowish worm, deepening to orange on the under side will spin a lovely orange cocoon; the one having a pale, greenish cast, yellow underneath, will give us a dainty shade that may safely be called lemon color; this one with no shading but a pale grayish tinge, will produce a cocoon which, in its first freshness, will have a most delicate lavender tint that will too soon change to a dirty white when handled; another, a little clearer, with just a faint glow about it as it wanders off, will show a shade so faint as to be almost indescribable; not deep enough to be called pink, yet too flush for white. It, too, will change with slight handling to a soiled white. But this one, with nothing remarkable about it but its clearness, watch it; by-and-by, hanging in the branch, we will find suspended by threads clear as glass and gleaming like silver a cocoon white as snow, so spotless as to seem too pure to touch, however daintily; yet, strange to say, it will not be so easily sullied as the others. Experience will prove that the pure white and the orange retain their beautiful purity longer than those of any other coloring, always excepting the large peanut shaped buff-colored strong fibred cocoon, whose many good qualities seem to give it precedence, though for actual beauty of appearance it is surpassed by those before mentioned. But nothing but positive abuse will spoil either color or shape of this favorite.

ODD HABITS OF SPINNERS.

It would be difficult to find anything more perverse than silk worms when they are ready to spin. Place all the tempting contrivances you can invent in their immediate vicinage, wander they will, up and down and into unthought-of places. The branches that suit some, others will not

deign to notice. A few will meekly spin where you with gentle hand may place them; others little short of lock and key could confine. Some take the notion to spin flat (and they work faithfully) against an even surface until they are so far changed to chrysalids that they can no longer cling, but fall, leaving a gauzy fabric that is difficult to remove, but the beauty of which is truly wonderful.

We had a worm which spun a ribbon five inches long, varying from two to two and a half inches wide, with a strong selvage at each side, that only a man's fingers could break. Another made for itself a pretty little orange colored basket suspended between two twigs, and there it worked, unconscious of the curious eyes that watched its strange monotonous motion until it was sealed in its brown casket. Sometimes two, or even three worms will go into partnership, all spinning in the same space, forming odd cocoons that are useful only as floss, none being fit for reeling except the perfect single cocoon. Perfect products will be found to be each composed of a single thread hundreds of yards long. We have seen one reeled on to the fingers in one continuous line from the start until the chrysalis dropped, entirely released from its dainty covering. Nothing in art can surpass the glossy beauty of the fibre when first reeled.

THE FUTURE OF WINE-GROWING IN CALIFORNIA.

From Notes and Observations Made by Thomas Hardy of Bankside Vineyards, Adelaide, South Australia, When Traveling Through California.

My last letter completed the description of all I have seen of the vineyards and cellars of California during a stay of twenty days. Of course it would take months to visit all, but I think I have seen the principal old vineyards in the country. There may be a few errors in my letters in respect of numbers and quantities—I took no notes at the time of my visit—but as I had two pairs of eyes and ears with me beside my own, and we generally compared notes when in the evening I jotted down the events of the day, I trust there is not much wrong in what I have written. I have come to the conclusion that there is a great future before the vine growers and wine makers of California. They can produce every class of wine required by the world in some part or another of the country. They can make good brandy, and as cheaply as any country, from the immense yield of grapes and the use of labor-saving machinery in cultivation and manufacture. The fine land of the interior valley of the Sacramento and the San Joaquin, with the aid of irrigation judiciously applied, and the fine dry climate, will enable them to supply all the world with raisins, and perhaps currants, which, strangely enough, have hardly been tried as yet. They have a population of over fifty millions of people in the United States alone to supply, and railway rates are now at a rate that will enable them to flood the Eastern markets with wine and brandy. There are already ten million gallons of wine made in California from the best accounts I could gather, and from the large increase in planting during the past few years, and still going on, the production will be doubled in three years, and it is quite possible that production will for a time be in excess of the demand; and, for the credit of the wines of California, the sooner that is brought about

the better, as the wines now are placed on the market much too young, especially for the sweet and strong wines. We shall very likely hear of a great depression and low prices in consequence of this rush in vine planting, but it will be only for a time, and those who have good vineyards and can make fairly good wine need not fear, for it will soon pass away. The market for the wines in the country itself is not yet half developed; there are hardly any places open to the public in any of the cities for the sale of wines only; it is generally mixed up with lager-beer and spirits, and very little attention paid to serving it out in a proper manner. A great deal of it is no doubt sold as French and German wines, the labels, brands, and cases, being imitated to a T.

The wholesale business in wines and brandies in San Francisco is principally in the hands of those who no doubt when the price gets low enough for them will buy in largely and hold for age and better prices. No one scarcely finds any quantity of wine over a year old in any grower's cellar, and I do not think there is much in those of merchants.

For us in Australia we have nothing to fear from the competition of Californian wines with ours in Europe. They have too large a market of their own to supply for many years to come; and our wines are of a quality to suit the London market much better than any I have seen of theirs. The youth of most of their vines is a cause of much inferior wine being made; add to this the very general habit of planting vines in land too rich to give anything but poor wine, even from the best kinds of grapes. That the country is capable of producing fine wines I have no doubt, having tasted excellent old wines, and very promising new wines made from old hillside vineyards.

I have obtained during my visit greatly enlarged views of what we should be able to do in Australia in the production of wine and in the economical working of vineyards and cellars; many hints which will, I trust, be of some service to the country of my adoption, and to myself and family.

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Medoc Wines.

At a meeting of the Santa Clara County Viticultural Society, Mr. J. B. J. Portal said:

Under the name of Medoc is known that tongue of land advancing to the center of the river Gironde to the ocean, from the left side of that *fleuve* to the sea. Geographically speaking, the Medoc district commences near Bordeaux and ends at Saint Estephe. Beyond comes the Lower Medoc, which differs entirely from the true Haut Medoc. It is situated between 45 and 42 degrees of latitude. The valley of the Gironde is about twice as long as it is wide and contains eleven departments, known as the district of the southwest.

The country above described resembles as near as can be the valley of Santa Clara, cutting through to Santa Cruz, and the river Los Gatos replaces remarkably the Gironde. The soil is in most of this section the same as that of the Medoc district of France from which the world is supplied with those wines known under the various names of St Julien, Pauillac, Margaux, Lafitte, Mouton, Latour, La Rose, Leoville, St. Estephe, etc. If the Burgundy district claims justly the highest rank among the best wines of Europe, it is well admitted that the world recognizes the Medoc as the next in rank as to quality and fineness; and it is also well accepted by the French authorities that that privileged region is one of the most prosperous sections of the French Republic, which is most due to the reputation of her wines.

I cannot on this occasion extend my remarks as I would like to, in giving you many points of interest concerning the Medoc district, I will simply give you an idea of what is cultivated there, and what we can do here with the same varieties of grapes, as far as we have experimented. Have we any of those noble varieties? If so, what are they? If Medoc wines are so distinct from any other, the varieties that enter into their composition must also be so, and it is a remarkable fact that varieties, soil, culture, differ entirely from all other districts; therefore their culture must be a special subject for viticulturists to study.

Five principal varieties are cultivated in Medoc—the Cabernet Sauvignon, Cabernet Franc, Malbec, Merlot and Verdot.

The Cabernet Sauvignon is to the grand vines of Bordeaux what the Pinots are to the great vines of Burgundy, the *cepape par excellence*; but like all noble fine grapes it is a shy bearer and its wine takes longer to mature. But it is a good keeper and improves by age wonderfully.

C. A. Wetmore, in his second annual report, says of this grape on page 127: "This is the highest type of Bordeaux Claret grapes. It is a very shy bearer and demands long pruning, trained low. It is only experimentally known here at present. The sample of wine made by Mr. Drummond in 1882 was more admired at the last State Viticultural Convention than any other on exhibition, notwithstanding its youth. Those who are now experimenting with this variety are importing their cuttings from France. Mr. Crabb has this variety from several sources. His first sample of wine was excellent. Mr. Portal of San Jose is pruning it successfully, according to the Medoc system. I am testing its practical value near Livermore. Hon. M. M. Estee has made an importation; also has Hon. J. T. Doyle. I believe that those who aim at fine wines of

Bordeaux type cannot afford to be without it."

Since the above writing many samples of Bordeaux wines have been sent to our different conventions and surely the samples proved very satisfactory, the larger number being sent from Santa Clara county where this grape is extensively cultivated. I have now fifteen acres in cultivation and have prepared twenty-five acres more to set this next Winter; and as the cuttings are now abundant in the State, I trust that those who have the proper location will avail themselves of the opportunity of propagating them.

The Cabernet Franc is the most prolific bearing vine of Medoc. It is a very vigorous grower and the least subject to coulure of any vine we cultivate. This year gives a very good illustration of the qualities of this grape. While most other varieties have suffered severely from coulure, the Cabernet Franc stood well. Its wine is of the same quality as the Cabernet Sauvignon, and it enters in a large proportion into the manufacture of Lafitte, Latour, Leoville, Margaux—in fact all the best Bordeaux wines.

The Malbec in a favorable location bears moderately and gives a wine of heavy color; but its wine must be blended in order to keep well. The Merlot and Verdot are regarded in Medoc as "plant auxiliaries." They are vigorous growers at my vineyard, but they have not as yet fairly fruited.

The Culture of the Vine.

[By Dr. J. Guyot.]

VINTAGE.

The vendange, or gathering, of the grapes is the first act of the vinification, and the last and sole purpose of vine culture. The gathering is the supreme fact which resumes and sanctions all the labor of the vigneron, and all the expenses of the proprietor. An abundant crop of well ripened grapes is a true conquest, the result of a six month's campaign, during which Spring frosts, cold June rains, hail, insects, diseases, Autumn frosts and rains, had to be overcome and subdued. There is nothing more dramatical, more exciting, than the struggle of the vine grower against the enemies that attack his work without intermission and to the last. In vine districts a good vintage is a general triumph, which cheers up the laborer in his toils, and heightens the animation and joyfulness of the whole population. But this unanimous satisfaction is seldom given by capricious Autumn, to the hazards of which the vigneron abandons himself with the quiescence and fatalism worthy of a Turk. Fine and good vintages are now getting more scarce, and that is not because of the inclemency of the seasons, but because of the stupid ardor of covetousness and desire of obtaining a crop of any description to make a wine, whatever may be the quality. Sixty years ago one used to grow grapes to make wine; since, and especially for the last twenty years, wine is made solely for the money that it realizes. Wine is made with grapes grown from coarse *cepapes*, crammed on a small space of neglected soil; it is made with green grapes, and speculation, trafficking audaciously in names, destroys the former reputation of the wines of France. Oh, manufacturers and merchants of pretended French wines, how long will your impudent traveler persuade foreigners that your wines from gamais, chasselas, gouais, verdillon and verjuice, qualified by the ad-

dition of glucoses, molasses and raw sugars, are the true and good French wines? The answer is ready: English industry offers similar wines, made with preserved grapes, sugar and acids. To re-establish the trade of genuine French wines, vineyards must be planted with fine *cepapes*, and the fruit be allowed to come to perfect maturity. The French wines are light and generous, inimitable in their agreeableness, and incomparable for their hygienic influence on the body and mind.

Ban de vendange*—Advantages of late gatherings—Disadvantages of the ban de vendange. In old times an assembly of notables, assisted by experienced vignerons, fixed for everybody a day before which gathering grapes was not allowed, and that day never preceded the complete maturity of the fruit; the quality of the wine was the pride of the man and of the country, and it was very properly thought that no single individual had a right to compromise a reputation the maintenance of which was a matter of general concern.† The desire to realize the crop as early as possible is permitted to influence the fixing of the ban de vendange where it exists. The crop must be turned into money as soon as possible, and the September rains and October frosts are dreaded like irresistible scourges, from the grasp of which the grapes must be taken, be they only half ripe; what matters the quality, as long as there is a sale for produce, and it will always sell, the wine having become so scarce. This anticipated fixing of the ban de vendange is, therefore, exercised without a regard to the quality of the wine, and for that reason the complete suppression of the custom is desirable.

Danger of early gatherings.—The inclemency of the weather in Autumn is generally less injurious and less fatal than people believe. For forty years I have observed with interest most of the vintages, and their episodes relatively to meteorological effects. I have often seen the proprietors in Burgundy, Champagne and Touraine regretting their early gatherings, and I have always ascertained that temporisers of the same localities obtained better crops and better wines. To make the good wines, the true wines of France, except, perhaps, in some Southern localities, the grapes must be gathered when in their highest state of maturity. A perfect maturity is of as great importance as the choice of fine *cepapes*. For in truth, the juice of Chasselas may measure four or five degrees with the glucometer, and of well-ripened gamai six or eight degrees, when the juice of the best black Pineau, if unripe, may mark zero; when the Pineau is slightly red, it marks

* Vendange is used for gathering and also for all the operations of wine making.

† Cyrus Redding thinks wrongly that the ban de vendange is an infringement upon the personal rights secured by the Revolution to every Frenchman. The ban de vendange is no law of the code, it exists only in a few localities, and even there it is not strictly carried out; in fact, it is a kind of understanding among the inhabitants of a commune, and any of them who choose to override it can do so with impunity.—TRANS.

two degrees, then four, six and eight, and it is only by longer and complete ripening that its juice reaches ten, twelve and even fourteen degrees. It is evident, therefore, that the perfect maturity of the grapes is the necessary complement of the fineness of the wine which produces it. So the vigneron who gathers his Pineau as soon as it is black outside and green inside, obtains wine worth one shilling per gallon, and the vigneron who gathers it a fortnight or a month later, when it is thoroughly black, gets a wine worth from three to four shillings a gallon. The choice of the time for the vintage is of great moment. For several years I have seen the finest black grapes of the great vineyards in Champagne sold at from 24s to 32s the cwt. Well, a vineyard well tended will always produce one ton of grapes per acre, which would give a return of £24 or £32.

A Strong Endorsement.

The New York *Analyst* contains a report on Milco's buhach as follows: "This is the powder of *Pyrethrum cinerariae folium*, which is the same plant from which the imported insect powder is supposed to be made. The buhach is made from the plant raised in California, and the samples we have seen for sale in the stores, bearing the name of the Buhach Producing and Manufacturing Company of Stockton, we found to be pure and unadulterated. Of some twenty samples of the imported insect powder, not one was found pure; they were all adulterated with cheap trash, possessing no value as insecticides whatever, and some contained paris green and other poisonous substances. The best evidence of the adulteration is, that the powder is offered at less price than the flowers from which it is made. The buhach powder has been tested and highly recommended by several of the best authorities in this country. The efficacy of the powder depends upon the volatile oil the flowers contain. It is therefore necessary that it should be packed in tin, where this oil will not evaporate and thus cause the powder to become inert. The usual adulterations found in the imported insect powders were sumach, yellow ochre, sand, terra alba, acetate of copper, arsenious acid. Such powder as this is not safe to use where the dust is to be inhaled by human beings, while the buhach, though destructive to all insects, is perfectly harmless to human beings."

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REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and San Francisco, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country.

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the Bernel Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

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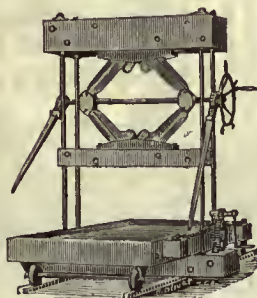
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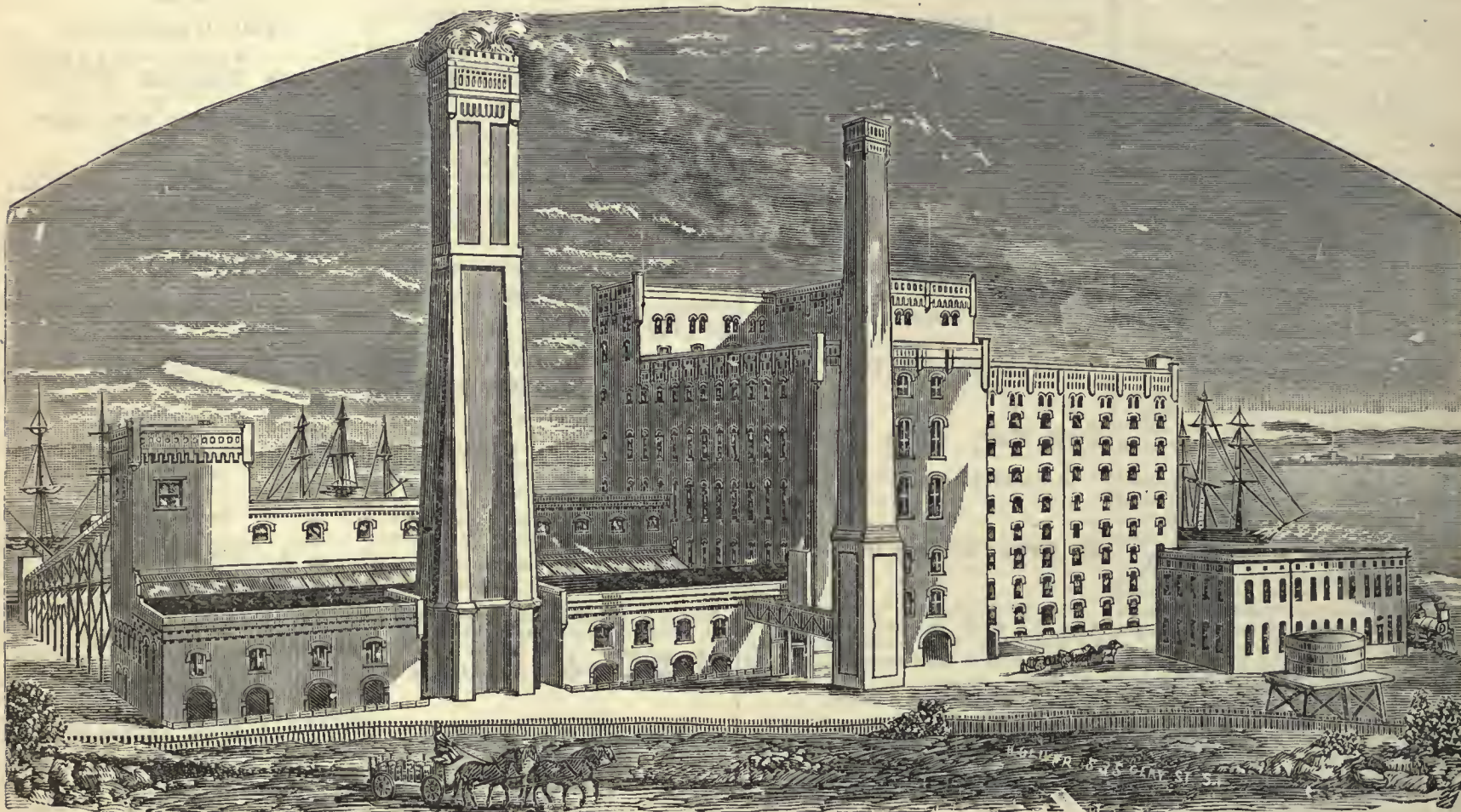
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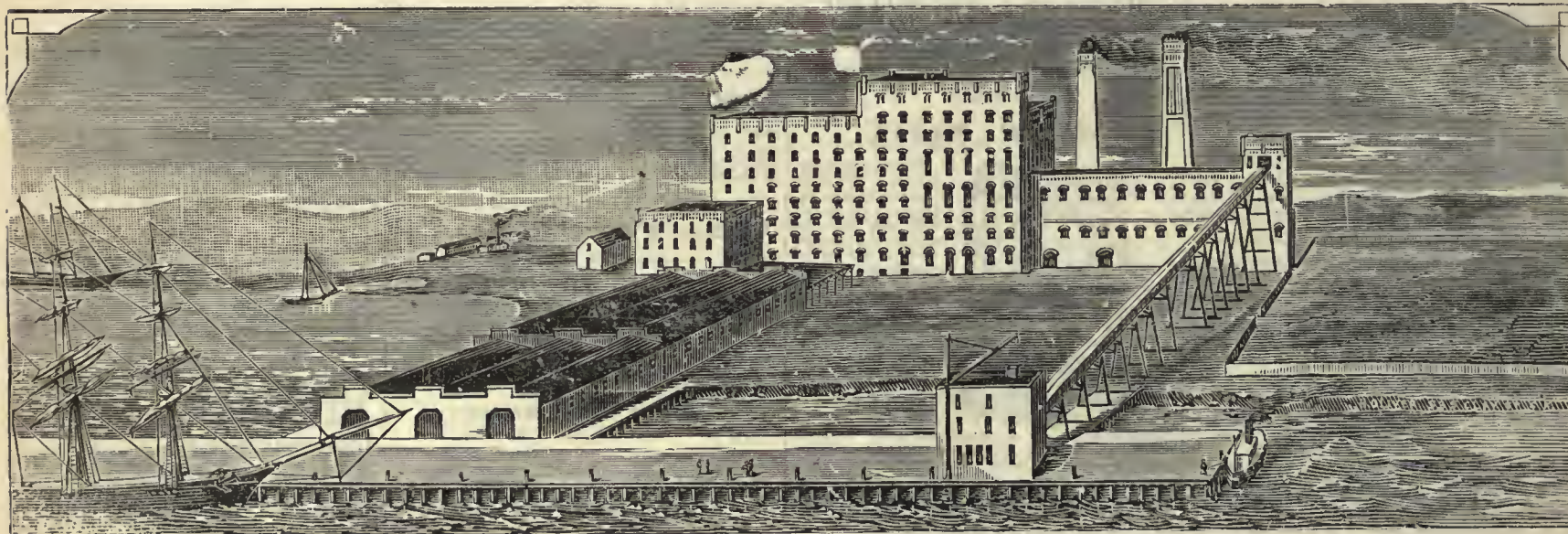
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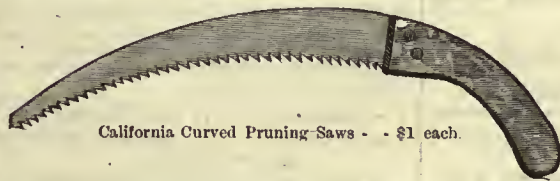
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DAILY CALL, OCT. 18, 1883.

THE WINE PRESS AND THE CELLAR.—A manual for the Wine Maker and the Cellar Man, is the title of a work just published, from the pen of E. H. Rixford. The work, the author says in the preface, is the result of research by himself, chiefly for his own benefit, and in going over the literature of the subject of wine making, he failed to find a work in the English language which is adequate to the needs of the practical wine maker. The book is intended to supply the deficiency. Elaborate statistics of the California wine product are given. Besides the preface, the work contains twenty chapters, each embracing a distinct subject relating to the manufacture of the various wines and putting it up for market; defects and diseases of the liquor; mixing wines; analysis, etc., with forty-two illustrations in all. The processes begin with the gathering of the grape, following each step and the processes attending it, in the manufacture; treating of the various quantities and the causes upon which these various differences depend. The book contains 240 pages, and is thoroughly indexed.

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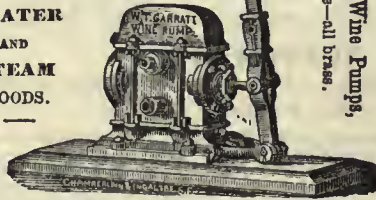
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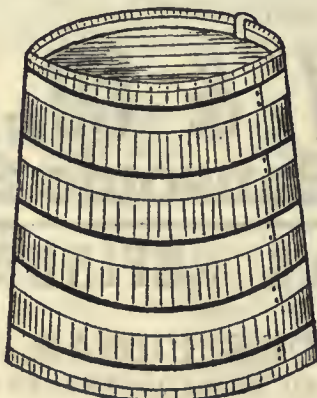
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VOL. XIV, NO. 9.

SAN FRANCISCO, AUGUST 14, 1885.

PRICE 15 CENTS.

THE LOUISVILLE EXPOSITION.

Particulars of the Progress of the California Exhibit.

A Meeting of the Viticultural Committee—Grapes, Wines, Brandies and Raisins to be Represented—Important Suggestions—Sending Samples.

THE LOUISVILLE EXPOSITION.

Reports from Louisville show that the Exposition that opens there to-morrow will be the largest and most successful ever held in the city. The foreign collections will be from Russia, France, Mexico, England, Austria, Hungary, Italy, Germany, Holland, Switzerland, China, Hawaii, Damascus, Malta, Palestine and Japan. The largest exhibit will be that of the Southern Pacific Company, representing the State of California, which will be in charge of Mr. C. B. Turrill. The space occupied will be 15,000 square feet at the north end of the building and it will contain no less than seven thousand specimens of our products, forming a complete exposition in itself.

Speaking of California's representation the Louisville Post says: "It will embrace the crude and manufactured articles of the State; over 2,000 specimens of grain from every county in the State; a wonderful exhibit of wheat; the minerals, woods, grasses, fruits, wines, etc., in a bewildering array. The display will contain a frame cube fourteen feet and three inches in dimensions, covered with paper, which gives it the appearance of a solid block of gold. This will represent the amount of metal which has been taken from California's mines, viz: \$1,060,000,000. A similar cube twelve feet in dimensions, will represent the aggregate silver product.

"There will also be seen a portion of the original 'Big Tree' from the Calaveras Grove. This section is seventeen feet in diameter and grew ninety-six feet from the base, the tree being 350 feet high. It was cut down by some miners in 1853, and has lain where it fell ever since, though the section is perfectly sound. A section of the same tree was consumed in the Crystal Palace fire in London. The 'Calaveras Grove' is situated 130 miles east from San Francisco, and contains about 350 of these giants of the forest, each of which bears the name of some distinguished individual.

"Last year five counties of California produced over ten thousand tons of honey. In the display will be seen every artifice

and device used in the bee culture of the State, and a large display of that staple, including the wonderful 'white sage' honey, the whitest and purest in the world. There will also be a wonderful collection of the flora of the entire State, arranged by counties. In fact, the entire exhibit is intended to attract immigration, and is arranged for the purpose of affording accurate information concerning any section of that wonderful Commonwealth. There will be cotton and hops, silk and its culture, books and pianos, etc. It may be stated as an interesting fact that a San Francisco piano took the first premium at the New Orleans Exposition. Major Turrill assured the reporter that the display of raisins, almonds, etc., which California would make had never been equaled in the world. He intends having an exhibit of fresh fruits, canned and evaporated fruits, lemons and citrons, woolen goods, blankets, etc., etc., besides numerous works of art, which will reflect credit upon his State. The display will be the largest in the building and is being rapidly put in order."

It is gratifying to learn, in this connection, that our viticultural industry will be well represented. The appeal of the Committee appointed by the State Viticultural Commission for the purpose of collecting exhibits, is meeting with a warm and liberal response. In addition to the samples of wines, brandies and raisins shown at New Orleans numerous cases containing other choice varieties of wines have been and will be forwarded. Later it is anticipated that the raisin makers will place on view, through their individual efforts, such a collective exhibit of California raisins as has never been seen anywhere before. Boxes of fresh grapes will also be forwarded from time to time as they attain maturity and they will form by no means the least interesting part of our exhibit. It is expected that the grape growers will continue to forward their grapes during the whole period of the Exposition. This will keep fresh fruit prominently before the public, and being both attractive and edible the grapes will serve to answer a double purpose. They will show the productiveness of our soil and the quality and character of the fruit from which our wines are made.

COMMITTEE MEETING.

A meeting of the Committee in charge of the viticultural exhibit for the Louisville Exposition was held at the offices of the State Commission on Monday, 10th inst. There were present Hon. M. M. Estee,

Chairman; F. T. Eisen of Fresno county; J. H. Drummond of Sonoma county; D. T. Feeley of Santa Clara county; I. Landsberger of San Francisco.

The Secretary reported that the various members of the main and local Committees had been notified of the proceedings of the former meeting; that they had received special tags for forwarding their exhibits by rail, free of charge, and had been asked to assist in obtaining and forwarding wines, brandies, grapes and raisins. Numerous promises of support had been received in reply, and, among others, from Dr. J. Strentzel of Alhambra Vineyard, Martinez; Col. L. M. Helt of Riverside; Hon. J. A. Filcher of Auburn, Placer county; Captain J. Chamon de St. Hubert of San Jose.

Mr. D. C. Feeley, a member of the Santa Clara Viticultural Society, stated that he had been at the New Orleans Exposition for two months and was disappointed at the manner in which the California wines were presented. In his opinion it was a mistake to separate them by counties as this resulted in several little collections of wines, whereas other States had classified their various products so making a good showing of each by their compactness. He thought it very important that a practical man should be placed in charge of the wine exhibit. There was great ignorance in the minds of Eastern people regarding California wines and brandies which they wanted to sample. Mr. Jarvis of San Jose would probably realize \$50,000 through having somebody there to represent him. A good man should be sent who would give samples with discretion as nearly a hundred thousand people could be reached at Louisville, and they should have an opportunity to taste and sample our wines and compare them with the wines from Ohio, Missouri or New Jersey.

Mr. J. H. Drummond was afraid that but few samples would be sent from Glen Ellen for this very reason. The circular, relative to the New Orleans Exposition, that was issued by the railway people had stated that the wines would be sampled but this had not been done. Referring to the filling of bottles as suggested by Mr. Turrill, he said there was not a capsule to be obtained in San Francisco that would cover a number one cork and the bottles could not be filled up to the cork without one of the latest and expensive corking machines.

Hon. M. M. Estee stated that he had

written personally to many of the wine makers of Napa county and anticipated a good exhibit. He promised to write to Mr. C. B. Turrill relative to the viticultural exhibit and suggest that it be all placed together.

On motion it was decided that the Secretary should write to Mr. C. B. Turrill, informing him that in the opinion of this Committee the contributions of wines, brandies, grapes and raisins from this State should be exhibited as a whole as the California viticultural exhibit instead of being segregated, but that each bottle or package should bear the label of the individual exhibitor.

Hon. M. M. Estee was of opinion that a gentleman who understood wines and how to handle them on their arrival at New Orleans should be sent to take charge of them; he suggested that Mr. Wetmore might be able to go East earlier than he anticipated.

Mr. Wetmore, being invited to confer with the Committee, explained that he would not be able to stay more than two weeks in Louisville and could not remain there in charge for three months. He thought that it would well repay the State to engage a man to travel about from one Exposition to another taking exhibits with him. At present such work was done by the Railway Company at their own expense, and, though for their own benefit yet it was really of great benefit to the whole State. All exhibitions should be worked thoroughly; business men would naturally work for themselves individually and not for the State as a whole.

Mr. Landsberger referred to the benefits derived through Mr. Wetmore's efforts at Washington when samples of wines were sent to him there some seven or eight years ago. The wine makers had very few old wines and he did not think that many of the dealers would care to send unless they were assured that their wines would be sampled or tasted.

Hon. M. M. Estee believed that Mr. C. B. Turrill, whom he had known from boyhood, was not thoroughly "up" in the wine trade, and, although he could make a good display, he would hardly be able to give such attention to this special industry as the wine makers desired.

After further discussion the meeting adjourned.

CIRCULAR.

The Committee, appointed by the State Viticultural Commission, for the purpose of securing an exhibit of viticultural products representative of California, has instructed me to send you the following particulars and to solicit your earnest co-operation.

The following samples are considered desirable, by the Committee, to be the main features of the exhibit, which should be, in every possible particular, typical of the viticultural industry of this State.

First—Collections of wines, brandies, raisins and fresh grapes.

Second—Photographs of vineyard scenes, wine cellars, grapes; charts, pictures or maps illustrative of the extent and diversity of the industry.

Third—Samples of soils from different localities, vines of different ages showing the branch and root growth; pressed specimens of the foliage; specimens preserved in solution.

Fourth—Products made from the grape, such as grape syrup, cream of tartar, etc.

Fifth—A register of varieties of vines for sale, with the prices and peculiarities of each concisely stated; also prices of wines for sale and by whom.

The Committee in charge of this exhibit are Hon. M. M. Estee of Napa, Chairman; I. Landsberger of San Francisco, Captain J. Chamon de St. Hubert and D. C. Feeley of Santa Clara Co., E. W. Maslin, W. B. West and H. P. Livermore of Sacramento Co., F. T. Eisen of Fresno, J. H. Drummond and Hon. W. Mc Pherson Hill of Sonoma Co.

In order that efficient work may be done in Southern California, the following gentlemen have been requested to co-operate with the main committee, with respect to samples of wines and brandies, viz: Hon. R. F. Del Valle, Los Angeles; Hon. J. F. Crank, Pasadena; and R. J. Northam, Anaheim.

The following named gentlemen have been requested to assist the Committee in securing proper samples of raisins, illustrative of their different sections, viz: Robert McPherson, Orange, Los Angeles Co.; Col. L. M. Holt, Riverside, San Bernardino Co.; Geo. A. Cowles, El Cajon, San Diego Co.; T. C. White, Fresno; D. A. Jackson, Woodland, Yolo Co.; Hon. J. A. Filcher, Auburn, (for the foothills.)

The following extracts, from a letter addressed by Mr. C. B. Turrill to the editor of the S. F. MERCHANT, serve to show more particularly the nature of the exhibits desired and should be adhered to as closely as possible:

ARRANGEMENT BY COUNTIES.

"A careful study of the subject induces me to adhere to my previous plan of arranging the exhibits by counties, and then grouping these geographically. Thus the visitor forms a pretty correct idea of the resources and advantages of each section. And when he passes from one county collection to another and sees the same products displayed in so many of these geographical divisions, he is amazed at the fact that so many things are produced nearly all over the State."

A GENERAL DISPLAY.

"Besides this general arrangement, I want to have sufficient of the exhibits to make general class displays. For instance, I want to get up a general viticultural and vinicultural display, which will clearly show the extent and diversity of this branch of our State's productive possibilities. I

shall be glad to have all the charts, pictures, maps, etc., that I can get, which will throw light on these matters. Photographs of vineyard scenes, wine cellars, grapes, etc., are the interesting pictorial part of such a display. There should also be samples of soils from different vineyards. Vines of different ages, showing the branch and root growth. These should illustrate the growth of different varieties as well as the fertility of the soil. There should be pressed specimens of the foliage. The vines will have to be dried, and the leaves will have to be removed, they will simply show the canes and the roots. The foliage must be pressed. Then we need specimens of the different varieties preserved in solution. I have a large collection of such now. These are in a preservative solution of my own, and keep admirably, retaining bloom as well as color, form and size. I put one bunch in a jar; after the solution has permeated the berries there is no fear but what all will keep well."

WINES IN BOTTLES.

"It is important that I should have in this special display as full an assortment as possible of wines and brandies of different varieties, vintages, and from as great a number of localities as they can be procured. Two or three bottles of each would be ample for this. I would urge that for this part of the display, if no other, the bottles should be clear, so as to show the color of the product contained. I think it would be well to have these bottles accompanied by concise statements of the grapes from which made and also by an analysis. There are other points which will suggest themselves. It is important that all these vine products be put up in attractive shape. One large display of wines that came for the New Orleans Exposition would have made a better appearance had the bottles been better. Some apparently were ordinary beer bottles, and the height was not the same. This was unfortunate, and was the cause of much adverse criticism. Wine dealers urge me to impress upon our makers the importance of filling the bottles fuller, and making the capsules come down just below the top of the wine. Remember that our wines will be criticised. It is well to avoid grounds of complaint when possible."

CAPPING AND LABELING.

"Care should be taken in capping, and especially in labeling. In the collection above referred to some of the bottles had been put into the sheaths before the labels had dried, and they were rumpled up past recovery. Too much care and attention cannot be paid to all these little details. There are thousands to notice them, and much depends upon attractiveness. Then there is another point; there is a constantly present tendency to compare our wines with the French, not alone in quality but in the style of bottling, labeling, etc. We must put our best foot forward in all particulars. Many here have objected that in our wines the bottles are not full, that is to say, there is anywhere from half an inch to nearly two inches between the top of the wine and the bottom of the cork. It is important that I be supplied with a sufficient number of duplicate labels for all bottles, in order to replace the labels in the event of their becoming soiled or damaged."

THE RAISIN EXHIBIT.

"I have not mentioned the raisin industry. This is very important. And all that has been said regarding neatness and care is applicable here. People are aston-

ished at the beauty and quality of our raisins. I let them test them when I can. The taste thus cultivated for our products creates a local demand that must be supplied. Every one speaks of the superiority of our California products. This sampling creates the desire to purchase, and local dealers come for the addresses of those to whom they can write for goods and prices."

EACH MAKER'S MITE.

"A series of exhibitions is contemplated and the Company asks the earnest, active co-operation of all. Let no one hesitate because he can contribute but little, for his mite will help to make the mass, and in that mass his individuality will not be lost. Each man gets full credit for what he does, and all have the honor of doing something for California."

TASTING AND SAMPLING.

"There should be a reasonable supply of important wines that may be tasted by those who will be specially interested in our viniculture. This can be so conducted as to do great good. It is not necessary nor advisable to treat every man that comes along, but a little experience demonstrates who are the parties who will be the ones to assist in making a market for our wines."

NO TIME TO LOSE.

Exhibits should be properly placed at Louisville by August 15th, but it is probable that the collection may be added to, subsequent to that date. It will thus be seen that prompt action is necessary on the part of all our viticulturists.

HOW TO FORWARD EXHIBITS.

All that need be done by exhibitors, after packing, is to deliver their packages at the nearest railway station with special tags attached to them. These tags can be obtained from any member of the Central or Local Committees, or from the Secretary. They are addressed to T. H. Goodman, care of J. T. Carothers, Station Baggage Master, San Francisco, and state that the package is an exhibit for the Louisville Exposition. Mr. Carothers has received instructions to forward all packages, so addressed, to their destination without delay.

PARTICULARS OF THE EXHIBITS.

As it is deemed desirable that a record of all the California exhibits should be kept at the office of the State Commission, exhibitors are requested to forward to the Secretary full particulars of the number and nature of their exhibits in accordance with the above instructions, with detailed accounts of any special peculiarities pertaining thereto. All exhibits forwarded through this Committee will be merely on exhibition as a general State display and not for competition. They will be forwarded free of charge.

By order of the Committee,

CHARLES R. BUCKLAND, Secretary.

323 Front Street,
San Francisco, July 28, 1885.

Those wine makers and merchants, who desire to extend their trade connections through the medium of the Louisville Exposition, would do well to insert their cards in the MERCHANT, as special arrangements have been made for a large circulation there during the continuance of the Exposition.

We are indebted to Messrs. Coates & Tool for a sample of the Centennial Cherry preserved in a glass jar and neatly packed in a box for express. The cherries presented a most inviting appearance, looked like wax and tasted exactly like the fresh fruit, the flesh being firm and sweet. The Centennial Cherry will certainly meet with general favor.

From Ancient Records.

Grape growing on the Rhine as well as on the banks of the Danube was begun in the first centuries after Christ. Chronicles show that Charlemagne had by his peasants planted the hills of Rudesheim with the Orleans vine. The Benedictine monks planted at Johannisberg, the Cistercian monks covered the Steinberg with vines. After huns and avars had devastated the Austrian fields and vineyards, the friars were the reconstructors of them. Monastical annals from the twelfth century give exact ideas of the generalization of grape growing in Austria and of the rational care bestowed on vineyard and cellar, chiefly on those belonging to monasteries and the apporportionments of prelates. Around Krems in the thirteenth and fourteenth centuries viticulture must have been already very extensive. In 1499, up to Whit Sunday, 27,000 pipes of new wine had been carted away from Krems to upper Austria and Bavaria. The local authorities had fostered grape growing for centuries and did not oppress the growers with high dues. There were difficulties between canons and growers regarding local sale of wine. Carefully and quite in keeping with the spirit of those times in the fourteenth century the importation, into the district of Krems, of wines from Hungary was prohibited. The same abundance of vineyards existing now has been in existence around Krems for many centuries. In 1499 the crop of grapes was so enormous, that to lodge the new wine many thousand barrels of old wine had to be emptied into the gutter. Maximilian II prohibited the planting of more vineyards in the Krems district in order to guard against over-production.

Prices of wine in that district seem to have depended upon the abundance or scarcity of the crop. In 1396 the cimer (19 gallons) was worth \$1 in our money; in 1311, 74 cents; in 1354, the enormous price of \$24, while in 1386 it was sold at 50 cents.

The law ordered building wine cellars towards the North and there were to be no doors nor windows on the South side of the cellars. The friars racked vines only with North wind and at waning moon times.

Great opposition was made on the part of the town council against the establishment of a brewery of the Bavarian monastery of Osterhofen at their house in Krems. Duke Albert prohibited the brewing of beer "because it would be injurious to the interests of the grape growers." In the protocol of 1305 of the Council of Krems it is ordered to fine vintners who give short measure, and when this has been done four times to cut off the thumb of the offender and let his wine run out. The same regulation applies to those who sell over the street a wine inferior to that served to their customers indoors.

For centuries the vine farmers in Krems did all the cultivative work and paid the taxes; their share was two-thirds and that of the landlord one-third. Some landlords only received one-fourth. Newly planted or reconstituted vineyards were free for 4 years, the farmers paying the landlord his share from the fifth year's crop.

One of the monasteries of Austria of ancient renown for viticulture has to the present time done more than any other, especially in the last quarter of the century. This is Klosterneburg where now secular scientific work leads in following the clerical oenological cares, and where Baron Babo and his equally great co-workers are active.

A. W. Z., No. 28.

Transcaucasian Wines.

Baron Suttner published interesting notes on viticulture in that corner of Russia where the cradle of the vine is situated. Vegetation in the vineyards of Caschetia and Mingrelia is quite enormous and favors the indolence of the peasants who grow grapes, as it has favored that of their forefathers for thousands of years. Berries of the size of small plums on bunches of many pounds weight are the fruit of several varieties. Corn and other cereals growing in abundance in the fertile soil, food being provided without much labor, and rational cultivation of the vineyard being unnecessary according to the ideas of the inhabitants, it is quite natural that the efforts of several prominent proprietors who studied viticulture abroad, proved unsuccessful to persuade the average Georgian or Mingrelian that progress would be desirable. Forests are annually devastated, no new trees planted, and the climate becomes gradually changed in the sense of diminution of moisture. Hailstorms are becoming more frequent and often endanger the grape crop. The wine produced serves for the thirsty inhabitants and the peasant does not care to sell any outside. A slight stirring up of the soil and some raising of vines which are spreading out, is about all the labor applied to the vineyard until the crop is ready to be gathered. Bending shoots and covering the nodes with earth is called propagation. Table grapes are first selected and the remaining fruit is then trodden in long trunks of trees hollowed out and the juice put into skins of goats, pigs, buffaloes or any other quadruped, the outside with the hair on being the interior of these leather bottles, and for safety pitch or naptha anointing the inner skin. In Tiflis at present some quantities of wine are found which have not been treated in that more than primitive way. The dealers have found out that civilized people want clean-tasting wines. The efforts of men like Mr. Scherrer and the scientists from the imperial viticultural properties of the Crimea are of some avail for reform in the towns of Transcaucasia in that regard. The wines made in a rational way show remarkable qualities and when increasing will find a ready sale in Russia.

The Red Cachetine wine is strong, deep-tinted and rather astringent. The white wine of topaz color, often slightly sweetish, is of agreeable taste. The Georgians are accustomed to their strong wines and drink it pure in large quantities, which, however, they seem to withstand, as one does not frequently see a drunken Georgian, except at their village banquets on extraordinary occasions, when all the guests having to follow the tumbash or table president in his potations at each toast, the whole assembly at the end remains no more sober. The popular belief in the curative virtue of the Cachetine wine against gout considers these occasions of banquets quite medicinal affairs. Prince Muchranski's wines, made by a French Superintendent, are quite Burgundy-like. He sells them for the Russian capital. Four and five-year-old wines sell at prices from 60 kopeks to 1½ roubles per bottle.

In Mingrelia grape growing is going back, oidium diminishing the produce. The disposition of the people to become easily discouraged does not prompt them to apply the easy remedy of sulphuring. The Isabella grape is quite common, but the wine made from it is the poorest of the poor. Gathering this sylvan fruit, the vine

creeping up to the highest trees, is somewhat difficult. The Prince of Mingrelia's vineyards are neglected. Formerly the two kinds of wines: Odjaleshi, resembling a light Bordeaux; and Tehuishi, more like a light Burgundy, were of great renown in the country. The predecessor of the present Prince had in his chalet at the vineyard of Solchino a banqueting hall where a curious arrangement for testing the resisting power of his guests was the movable floor which could be shaken and turned violently or gently at will.

In Abchasia little wine is grown and of poor quality. Corn yields sufficient profit and wine can be obtained from the neighboring districts.

The best table grapes are sent from Elizabethpol. Preserved in saw-dust, expeditions of these are made in nearly all seasons to all parts of Russia.

Grape syrup for preserves is made from very sweet grapes.

In Imerethia good red wine is made by German settlers. Casks are scarce and earthenware jars are the vessels, often 12 inches high and 8 inches in diameter, for storing the wine. These jars are dug into the ground up to the neck. A. W. Z.

Vinification.

Professor Pollacci of Pavia, published for the benefit of viticulturists in Italy, the following short note just six weeks ago. It contains matter for reflection for us and should be weighed as a contribution towards the right way of acting in the simple work of vinification:

"Generally," the Professor says "it is taken for granted, that covering the fermenting tank with the wooden cover, or a simple mat, a sheet, a cloth and leaving one-fifth or one-sixth of the height of the tank empty, the atmospheric air will not hurt the top of the fermenting mass (the chapeau), as this empty space is occupied by the carbonic gas from the mash and the latter is protected by that gas against acidifying influences from the air."

This idea of protection is true as long as the fermentation is in full energy. But as it gradually slackens and long before it ceases, the stratum of carbonic acid gas, although it is heavier than air, is rapidly substituted by the latter, according to the tendency of all gaseous bodies to unite. A glass cylinder 45 cm. long, by 20 cm. wide, filled with carbonic acid gas, covered with glass, had, after eight hours, lost this gas; a match did not burn in the cylinder then as in ordinary air. A trial in a wooden vessel showed a like result. Gaseous molecules, not kept in a hermetically closed vessel impermeable in all points, will escape. F. P. DFF.

The entries into Malaga of olive oil in the first five months of the present year have been 24,500 tons (20,413,389 kilograms), and the shipments 18,000 tons (14,960,692 kilograms). One week's shipments were:

To—	Kilograms.
Havre.....	62,433
Liverpool.....	10,235
Glasgow.....	50,305
Dublin.....	2,944
Cette.....	1,023
Marselles.....	14,000
Oran.....	50,933
Amsterdam.....	18,890
Puerto Rico.....	188
Vera Cruz.....	7,130
Cronstadt.....	92,839
Dantzic.....	12,440
Libau.....	31,050
Gothemburg.....	51,620
Stockholm.....	53,740

A Viticultural Inquiry From Hungary.

The following is a copy of a letter addressed to Hon. Washington Bartlett, Mayor of San Francisco, by a lady residing in Hungary who is anxious to learn particulars of American resistant vines. It has been handed to Mr. C. A. Wetmore, the Chief Executive Viticultural Officer, for reply:

To the Hon. Mayor of San Francisco—
 SIR: In a matter of local interest which has become of great importance in respect to viticulture in your country, and above all trusting to the friendly feeling and sentiments which you have hitherto shown to Hungarians, I take the liberty of addressing you in the hopes that my wishes may be kindly responded to. It is a well-known, depressing fact that phylloxera is devastating the vineyards throughout Europe, destroying the fruits of careful toil for many years to come without leaving the slightest possible chance for a remedy unless it be to extirpate the old vines and replant with new, sound and vigorous plants that can withstand the awful plague and bring forth sound grapes. I would therefore ask, if you would be so kind as to let me know if Catawba or any other species are adapted for transplanting to other countries; if so, what sort of grape will produce the best wine. I have been and always will be a great admirer of your glorious country; and beg to remain, with the expression of highest esteem

Your most obedient,
 POLYXENE DE GOSZTONY,
 Lady of Honor to the Noble Chapter of Maria Schult.

Váez - Hartyán, Hungary, County Pesth,
 July 2, 1885.

To the Hon. Washington Bartlett, Mayor of San Francisco: SIR:—The communication to your Honor from your correspondent in Hungary, Madam Polyxene de Gosztonyi, lady of honor to the Honorable Chapter of Maria Schult, at Vacy-Hartyan, which was referred to this office together with the inquiry contained therein, and your request for a reply to the same, has been received, and is herewith returned to you together with the following brief statement that may be of interest to your correspondent:

The question of experimentation with native and wild vines of America as grafting stocks to be used on account of their resistance to the attacks of phylloxera has attracted attention throughout the world, but is better understood in France than it is even here, where it has been investigated to some extent. I would respectfully refer your correspondent to the Director of the National School of Agriculture of Montpellier, France, Monsieur G. Foex, whose long continued studies on this subject are now of world-wide reputation; also to Professor A. Millardet of Bordeaux. These gentlemen whom I have named can give to your correspondent more information that will be practical for her use than can be obtained here. It is sufficient to say however in substance that there are in the United States vines of native origin which are known to be resistant to the phylloxera and which are now being largely used throughout the world to regenerate diseased vineyards, generally being used as stocks on which to graft those varieties which have already become noted for their qualities but which are not resistant. In

California we have been experimenting with these vines for a few years, but our chief knowledge concerning them and their adaptability comes from France. Our own experiments indicate that there are many of these varieties suitable for use in Hungary, but as it is known that each of them have peculiarities and require adaptation to certain soils and localities, it would be best for those in Hungary to follow our example and that of France, in testing not one variety but many before determining which are the best for their use.

The greatest number of varieties that have been tested anywhere are to be found in the vicinity of Montpellier, France. Originally they were procured from this country.

It would be much easier and more practicable for people in Hungary to procure their supplies from France than this country, unless they desire seeds for propagation. The wild vine of this State is under certain conditions very resistant to the phylloxera, but it does not seem to be suited to any country where Summer rains are common, as it suffers in propagation from the attacks of mildew.

Speaking from experience as now understood, the favorite of all these American varieties for resistant stocks, is the wild Riparia. There are others which under some circumstances are also desirable. France is now producing, by hybridization, a number of new varieties, which promise in some cases to be even superior to those now best known.

We have translated for the use of the public in this State several important works including those of Professor Foex and Professor Millardet concerning resistant vines. These will be found in our reports, which we send you with the request that you forward the same to your correspondent, hoping that they may be of some value to her and her country people.

Any further information that is in our possession that may be of use to your correspondent, you may promise to her, on her demand at her pleasure.

Yours respectfully,
 CHAS. A. WETMORE,
 Chief Executive Viticultural Officer.

W. E. CHAMBERLAIN, JR. T. A. ROBINSON

PACIFIC Business College,
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The Best Spring Medicine and Beautifier of the Complexion in use. Cures Boils, Pimples, Blisters, Neuritis, Scrofula, Gout, Rheumatic and Mercurial Pains, and all Diseases arising from a disordered state of the Blood or Liver.

SOLD BY ALL DRUGGISTS.
J. R. GATES & CO. Proprietors,
 417 Sanson St., San Francisco, Cal

EXPERIMENTAL FERMENTATIONS.

A lot of 400 pounds of Early Black July grapes, from Stockton, was received last week at the offices of the State Viticultural Commission in order to make further preliminary tests to guide the operations later on in the season. The fermentations with this lot are partially completed and partly in operation as these notes are being written and consist of the following: First, one lot crushed in the usual manner and placed in the vat to remain without any assistance; second, another stemmed but not crushed to be treated as the foregoing; third, one lot to which was added a small portion of compressed yeast after exciting activity in the germs by placing them in a small vessel containing must in a warm room; fourth, an equal quantity of grapes crushed as usual with an excessive quantity of yeast germs treated in like manner; fifth an equal quantity crushed as usual and treated with sulphate of lime, according to the practice of the South of France, Spain and Portugal; sixth, a portion of the grapes were crushed and pressed for the production of white wine, the intention being to carefully nurse this product without assisting it in any way by yeast germs in order to germinate and produce a true wine yeast which will be subsequently used in an attempt to propagate the same, by a method intended to demonstrate whether it is practicable to propagate a true wine yeast for service if required. So far as these latter experiments have proceeded at the time of this writing the result that has heretofore uniformly followed in all similar experiments made by the Commission are apparent already. The must that received the largest amount of yeast was fermented and finished first; next that which received the smallest amount; the others are proceeding slowly and are not yet finished. It is intended to repeat these experiments later on in the country on a practical scale, so as to determine what the varying results may be when applied to practical wine making, the preliminary test being of assistance in making observations for the guidance of future work.

An Answer Wanted.

EDITOR S. F. MERCHANT: In the latest number of the *Giornale Vinicolo Italiano*, is found a correspondence in which the editor being asked by a correspondent what to do to cure his wine of certain defects it shows, replies, after observing on the difficulty of prescribing for a patient he has never seen, and recommending remedies based on conjectures as to the nature of the malady, (ex. gr. adding alcohol if it wants strength, or enocianinia if it is defective in color), goes on to say, that if his correspondent objects to using any of these remedies he will give him another cheaper and more certain: "*Lasci il suo vino fino alla prossima vendemmia, quinta la quale, lo faccia ribollire sulle vinacce vergini di una buona uva, e stia sicuro che ne fara un ottimo vino, perfettamente commerciabile.*" (page 341) This recommendation seems to me so totally at variance with the instruction we have been receiving here, that I venture to ask some of our learned men to explain it, and tell us whether the *vinacce vergini* on which the enquirer is recommended to ferment his wine means lees or unfermented pomace. From the form of the recommendation and the confidence with which it is given it looks as if the writer considered it a panacea. If Professor Hilgard or Professor Rising, or Mr. Wetmore or Mr.

Pohndorff can explain this recommendation or reconcile it with what we are told is correct practice, I hope one of them will do so through your columns. Respectfully,

JOHN T. DOYLE.

Menlo Park, Aug. 9, 1885.

We believe that Mr. Pohndorff had experience last year in the direction indicated and has already brought the matter to the attention of the State Viticultural Commission and wishes to continue his experiments.—[ED MERCHANT.]

Superiority of California Wines.

The time is not long past, when a gentleman, introducing California wines to his guests at the table, did so deprecatingly and with much hesitation. In fact it was not considered good form among the elite of California society to drink the native wines at all, much less to offend the educated taste of connoisseurs by placing them upon the dinner table, unless disguised by foreign labels. Thus decked in borrowed plumes, it was soon discovered that the most fastidious wine-bibber failed to detect the fraud, or to distinguish the difference between the best qualities of California Champagnes and those imported from France. The Eastern people began to appreciate the purity and excellence of the California article, and the demand for it kept constantly increasing. Scientific tests were made, by which comparison was instituted between French and California wines, which resulted in the complete success of the latter. Since these tests were made and statistics published, showing the purity of California wines, our importations have fallen off forty per cent, while our production has increased over five hundred per cent, and, as our viticulturists by experience and experiment are constantly improving the quality of their wines, these percentages will, without doubt, soon become greatly increased. The superiority of our soil and climate for wine-making over that of France is clearly manifested by official returns, which show that, while the product of the French vineyards, per acre, averages only 196 gallons, those of California produce an average of about 400 gallons per acre, a difference of more than fifty per cent.

California now places upon the market wines of such quality and purity as to satisfy the most fastidious taste, and under its own native colors it holds its place triumphantly upon the tables of the millionaire and the connoisseur.—*Resources of California.*

Olive Plantin

In the lofty and beautiful settlement of Monte Vista at Tujunga Park the Messrs Wright Brothers, of Riverside, are clearing off a tract of forty acres of land, to be planted with 4000 olive trees. The cuttings are already on the ground and will soon be growing in beauty in their highland home. In Crescenta Cañada a large number of olives will be planted. Those that have been previously planted in Cañada have grown most vigorously. The Tujunga and Crescenta Cañada are especially favorable to olive culture. They are adjoining settlements and are making a generous rivalry in building up two of the most beautiful and healthful spots on the globe.—*Los Angeles Herald.*

The following is a sentence of Dr. Druitt, the practical British temperance reformer: "Civilized man *will* drink, *must* drink and *should* drink—but nothing stronger than light wine."

Some Practical Hints to the Wine Producers.

(Wynberg Times.)

The subjoined practical hints to Wine Producers have been drawn up by Baron von Babo, the Colonial Viticulturist, for general information:

It is evident that at present the production of wine in the Cape Colony is greater than the consumption of this article, and it is therefore necessary to produce and prepare a wine which can be exported to Europe, and which suits the taste of the European consumer. By applying some rules, which are absolutely necessary in the preparation of wine for the European market, it is quite possible to make of the splendid Cape grape a wine which will have a market in Europe.

The wine for the European market must be the produce of the grape only; it must be a natural wine, and no foreign substances must be added. By treating the wine with lime, salicylic acid, etc., it is rendered unfit for the European market. The color of the young wine must be greenish yellow, not brown or light red. The dark wine must be almost opaque, but dark red. The wine must be clear, and not containing insoluble matter in suspension. The smell must be vinous, not fusil-oil-like. The taste must be harmonious, no unpleasant or particular harsh taste must be predominant, and it must be pure, not indicating any disease. At last a dry wine must be completely fermented, containing less than 1 per cent of grape sugar. The grapes for making good wine must be ripe. For making a clear and light wine the grapes must be fully ripe—that is to say, they must have entered into the state when the berries have the largest size, and when the bouquet compounds and the taste of the particular kind of grape are developed. The grapes must not shrivel on the vines, because the bouquet-compounds leave to a great extent the berry after the state when it is ripe, and the amount of sugar increases, which again interferes with a thorough fermentation.

THE PRESSING OF GRAPES.

The present mode of pressing is most objectionable. The want of cleanliness in this manipulation is simply indescribable. It is to be wondered that, with this untidy treatment, there is still a drinkable wine produced. As the farmers are generally not in possession of presses and grape-mills, there is only one way of remedying the evil. The grapes are to be crushed in a narrow vessel by means of a wooden stamper of a conical shape and with a suitable handle, to be worked by one man. The juice, which runs through the perforated bottom of the vessel, must pass through a sieve, and thus freed from husks and stalks, is transferred into a stukvat (and not into an open vessel) for fermentation.

THE FERMENTATION OF LIGHT WINES IN STUKVATS.

The vats must be clean, and must not have an acetous or mouldy smell. Each cask, after being emptied, must be cleaned and brushed with pure water only, and then sulphured. Only spoiled casks may be treated with lime, sulphuric acid, caustic soda, etc. During the sulphuring the casks must be kept well closed and afterwards they must be carefully kept closed.

With cleanliness of the cask goes hand in hand the cleanliness of the store. A wine store is not a receptacle of ever so many articles of doubtful composition, which ex-

hale gases which are partly communicated to the wine, and injure its character.

The fermenting stukvats are filled up two-thirds with the juice. The cask is closed with a "fermentation-bung" of peculiar construction. As this necessary implement is totally wanting in the wine districts, it is desirable to cover the bung-hole with a small linen bag filled with clean sand and covering the cask at least four inches round the bung-hole, the bag must be two inches thick. The object of this arrangement is to let the carbonic acid formed during fermentation escape, but to filter all air that enters the cask, and to prevent the germs of acetons and other fermentation to get into the fermenting liquid.

THE FERMENTATION OF DARK WINE.

The dark wine must ferment on the husks. The fermentation of dark wine ought to be conducted in peculiarly constructed fermenting tubs, in which the husks are kept under the surface of the liquid. But as these appliances are at present wanting, nothing can be done with regard to this under the circumstances except to immerse every day several times the "hat" and to use the ordinary open fermenting tubs. After six to eight days the wine is separated from the husks.

THE TREATMENT OF WINE IN THE FIRST YEAR.

When the fermentation is quite over, the young wine is drawn off and filled in clean casks. The casks must, under all circumstances, be kept quite full up to the bung-hole. The casks must be filled up every month. The wine used for filling up must be of the same kind.

After six to eight weeks the wine is for the first time drawn over into a clean cask; this is done again shortly before the second fermentation. Under no condition whatever is wine to be fined before the second fermentation, which must be quite over before the wine is fined. After the second fermentation the wine is drawn over again and may now be fined once or twice. The best material for fining is gelatine, 1½ ounces per leaguer. Dark wine is to be fined only with half this quantity, as it loses too much color. After each fining the wine must be drawn off from the sediment (but not before three weeks) again and if it gets now any turbid again it must be fined for a second time. After this second fining it will soon acquire perfect clearness, as the remaining particles will now settle down.

A wine prepared thus with necessary cleanliness will stand any sea voyage.

Oranges.

A Malaga fruit dealer has been in Florida investigating orange culture. Florida is looking abroad for a market as well as a home; and dealers are taking the subject up, trying experiments with Florida oranges. The Spanish dealer said: "Oranges should be handled as carefully as eggs in their transportation, and also at other times and not as if they were bundles of hardware. I have been surprised to see how carelessly they were knocked and thrown about while being loaded on boats and cars. It requires from 18 to 20 days to transport them from Sicily to New York, yet they arrive there in good condition. This is the result of careful picking, packing and handling. There is no reason why Florida oranges, which are superior to the foreign fruit, should not be kept equally as long."—*Anglo-American Times.*

OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO'S STR. COLIMA, AUGUST 1, 1885.

TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
M, in diamond, New York	Lachman & Jacobi	12 Larrels Wine	581	\$237
F Bros, New York	"	36 puncheons Wine	5495	1833
E B & J, New York	"	100 barrels Wine	4716	1758
H, in diamond, New York	C Harley & Co	1 1/2 barrels Wine	25	25
X, in diamond, Washington	J Gundlach & Co	8 puncheons Wine	1286	571
B & T, Philadelphia	"	2 barrels Wine	94	198
"	"	1 case Wine	5	5
F, in diamond, New York	S Lachman & Co	25 barrels Wine	1163	465
B, in diamond, Brooklyn	"	25 barrels Wine	1180	620
M, in diamond, New York	"	21 barrels Wine	990	798
B D & Co., New York	B Dreyfus & Co	200 barrels Wine	9406	4520
J M, New York	"	10 barrels Wine	474	180
S Bros., New York	"	25 barrels Wine	1227	550
J & A P Co, N J	"	5 barrels Wine	248	175
H Bros, New York	"	8 barrels Wine	401	225
D G, New York	"	5 1/2 barrels Brandy	132	300
N Y B & Co, Boston	"	10 barrels Wine	498	330
"	"	2 barrels Brandy	98	220
J H M, Washington	Arpad Haraszthy & Co	5 casks Wine	296	175
H C W, New York	S Regensburger	3 barrels Wine	147	80
"	"	2 barrels Wine	97	53
"	"	3 1/2 barrels Wine	81	202
A M, New York	"	1 barrel Wine	40	24
K & F, New York	Kohler & Frohling	181 barrels Wine	9724	5500
"	"	7 puncheons Wine		
M C, New York	Arpad Haraszthy & Co	3 casks Wine	179	90
"	"	1 half barrel Wine	26	26
"	"	1 barrel Brandy	42	125
P Amanet, New York	Walter, Schilling & Co	15 barrels Wine	734	367
C Jackle, N Y	"	2 barrels Wine	99	90
Total amount of Wine			39221	\$18810
Total amount of Brandy			272	645

TO CENTRAL AMERICA.

Compania de Agencia de G'mala	Williams, Dimond & Co	20 cases Whiskey	50	120
J G B, Punta Arenas	"	3 kegs Wine	30	30
J C, San Jose de Guatemala	Eugene de Sabla & Co	1 case Whiskey	47	129
J W, La Libertad	John T Wright	12 cases Whiskey	30	96
A A Punta Arenas	Bingham & Pinto	1 keg Whiskey	20	50
M H V, Acajutla	Urruela & Urioste	10 kegs Wine	100	94
"	"	1 keg Whiskey	10	30
C H, La Libertad	Parrott & Co	6 1/2 barrels Wine	144	78
A A, Punta Arenas	F M Otis	1 pac-age Brandy	26	26
C A P R & F Co, S J de G'mala	Pac. Improvement Co	1 case Wine	5	6
Total amount of Wine			279	\$208
Total amount of Brandy			26	26
Total amount of Whiskey			157	425

TO MEXICO.

R G & Co, Acapulco	I Gutte	5 kegs Wine	90	114
L & C, in diamond, Acapulco	"	9 cases Wine	45	52
A G & Co, Acapulco	"	4 casks Claret	235	81
N P & Co, Acapulco	L F Lastreto	1 barrel Wine	50	40
T E & Co, Mazatlan	W Loaiza	4 barrels Wine	190	142
Total amount of Wine, 5 kegs			610	\$434

TO PANAMA.

A C & D Co, Colon	B S Taylor & Co	4 cases Claret	44	158
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MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	RIG.	GALLONS.	VALUES.
China	Oceanic	Steamer	15	\$15
Japan	Oceanic	Steamer	145	87
Victoria	Queen of the Pacific	Steamer	10	10
Honolulu	W H Dimond	Barkentine	300	387
Victoria	George W. Elder	Steamer	447	339
China	Arabic	Steamer	35	36
Japan	Arabic	Steamer	96	72
Honolulu	Mariposa	Steamer	688	645
Total shipments by Panama steamers			40,609 gallons	\$20,701
Total shipments by other routes			1,736 "	1,591
Grand totals			42,345	22,292

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WINDSOB, Sonoma Co.....LINDSAY & WELCH
WOODLAND, Yolo Co.....E. BERG
HONOLULU.....J. M. OAT, Jr. & Co

FRIDAY.....AUGUST 14, 1885

This paper may be found on file at Geo. P. Rowell & Co's Newspaper Advertising Bureau (10 Spruce St.), where advertising contracts may be made for it in New York.

Recognition.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.

Proprietor S. F. MERCHANT.—Dear Sir: Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.

Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural interests in the State, an exponent of their views and sole advocate of their interests, and, moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished.

Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandise who wish to call our attention to their goods, aid us and other Viticulturists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.

Be it further resolved that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.

C. F. RIGGS, SECRETARY.

TO WINE MAKERS.

A FIRST CLASS PRACTICAL WINE MAKER and Distiller, wishes to get employment. Will give best references. For particulars address to this office.

Among the visitors to the MERCHANT office during the past fortnight were Mr. H. W. Crabb of Oakville; Mr. Wm. Scheffler of St. Helena; Mrs. Kate Warfield, Mr. J. H. Drummond of Glen Ellen; Mr. Merriam of St. Helena; Mr. Shillaber of the Cordelia Wine Company; Mr. J. F. Crank of Pasadena; Mr. C. Hachl of Cloverdale; Mr. Wm. T. Ross of Colfax, Placer Co.; Mr. J. P. Smith of Olivina Vineyard; Mr. H. W. McIntyre of Rutherford; Mr. J. Q. A. Clarke of Woodland; Mr. Gustav Eisen of Fresno; Mr. Eggers of Fresno.

Hon. Paul Neumann, Attorney-General of the Hawaiian Kingdom, met with an unfortunate accident on board the Alameda on his trip to San Francisco where he arrived on 9th inst. The steamer lurched and Mr. Neumann slipped, inflicting an injury to his leg which necessitates complete rest at his rooms in the Palace Hotel for a few days.

FUNGOID DISEASES.

With the aid of a recently published work by Monsieur Viala of the college of Montpellier, France, concerning fungoid diseases of vines, it appears to be now much easier to determine the true nature of some of the fungoid diseases in our own vineyards. Heretofore this question has been obscured for want of correct information as to the varieties of this disease, and from repeated examinations now made it seems plain that we have in our vineyards all the known varieties of fungoid diseases that trouble the French vineyards, with easier means of identification and thereby for determining the true remedies. For instance what is known as black measles in many places, appears to be the true mildew or *peronospora viticola*, which can only be fought according to present experience by the use of sulphate of iron or sulphate of copper, used as a wash on the vine in the Winter time and early in the Spring as a powder. Another formidable fungoid disease well known in France as *anthracnose*, comprising different varieties of the same, is plainly discoverable in our vineyards. It is fought in France by frequent applications of sulphur and powdered lime. The use of sulphate of iron in a powdered form is also recommended. These distinctions in fungoid diseases will probably soon explain some of the difficulties which have been experienced in this State where the use of sulphur alone, as ordinarily used against the *oidium* have been unsatisfactory. Those who have the black measles in their vineyards would do well to mark the vines before the foliage has gone, taking care in the Winter to treat them and those in their immediate vicinity, with a concentrated solution of sulphate of iron, applied as a wash after pruning, care being taken also to destroy by burning all the wood that is pruned from such vines.

FUTURE EXPERIMENTS IN WINE MAKING.

At the request of some of the wine growers of the neighborhood Mr. Wetmore will attend a meeting to be held to-morrow afternoon at St. Helena for the purpose of discussing, together with the wine growers, important questions concerning fermentation. It is expected that this meeting will be one of great interest and that there will be a considerable attendance from other districts. Owing to the recent discussion concerning the various methods that may be used in fermenting, a great many of the wine growers will make experiments to determine the merits of the different propositions on a much larger scale than heretofore, so that the vintage of 1885 will no doubt be marked by a great advance in popular knowledge on this subject. Quite a number are preparing to test the value of holding the must of the red wines on the pomace after violent fermentation is over, by hermetically closing the tops of the vats, using different methods for accomplishing this end. One gentleman will try the economical use of cheap enamelled cloth such as is used by carriage makers, giving a vent to the escaping carbonic gas by opening a hole in the side of the vat near the top which will afterwards be filled by a bung, placing in this hole a pipe with a bent extremity to be inserted in a bucket of water. Others will use a tongue and grooved wooden top taking plaster of paris to seal the cracks and a bent tube to allow the escape of the excess of carbonic acid gas.

A TROUBLE OF THE WINE MERCHANTS.

Very free expressions of opinion are often heard as to the inferior quality of the California wines that are retailed in San Francisco. The blame is generally attributed to the wine merchant who is supposed to adulterate it to such an extent that it becomes unpalatable. We have become convinced, from our own experience, that this is not so in the case of one firm at least. The writer, accompanied by two friends, recently purchased a bottle of Zinfandel at one of the numerous popular places of resort in the city where liquors are dispensed. We were only asked, and paid, seventy-five cents for a large bottle. This was the first imposition and at once impressed us with a prominent injury to the California wine trade. It was nothing, however, to what followed. The bottle, as produced, was well corked, had no capsule, but bore the well-known label of Gundlach & Co. We anticipated something good but were doomed to disappointment. It bore the appearance of very slightly colored water and the unanimous verdict of its flavor was a solution of rusty iron. Not wishing to condemn at first sight the firm who were apparently responsible for the stuff which was expectorated upon the floor, we sent, on the following day, an unknown party to the store of Messrs. Gundlach & Co. to purchase a gallon of their ordinary Zinfandel, the same as they usually sold to retailers and private individuals. It was obtained and tasted by the same trio who unanimously pronounced it as different from the seventy-five cent compound of the day before, though this gallon was only seventy-five cents, as chalk from cheese. We determined to investigate this matter further and learned that many retail houses in the city purchased wines both in bottle and in bulk. In the former case they return as many bottles as are supplied; but they are not the same bottles, the return of which it is impossible to guarantee or insist upon. A retailer who purchases both in bulk and bottle, having a number of bottles in his possession bearing a well-known brand, can easily adulterate or add a liberal supply of water to his bulk goods. There is nothing to hinder him from doing so. He might, perhaps, buy an inferior and already adulterated article from an unscrupulous dealer, bottling it off into well-known labeled bottles. There should be some method for preventing such an imposition on the part of a retailer who, not content with a profit of four or five hundred per cent, seeks other and unlawful means to satiate his greed for profit. In the meantime the grape growers, wine makers and wine merchants suffer and the viticultural industry in California is injured.

THE ARSENIC SCARE.

A scare has been raised in certain quarters that the arsenic remedy for the destruction of grasshoppers will develop subsequent injurious effects by contaminating the soil and water. Arsenic has been used time and time again in Australia as a remedy for fluke and foot-rot in sheep but no complaints were ever heard of any danger arising therefrom either agriculturally or from the consumption of mutton. Professor Rising's investigations, conducted at the instigation of the State Viticultural Commission, will probably prove that there is no cause for alarm among the anti-agriculturists.

EXPERIMENTS AT OAKVILLE.

The Commission has made arrangements to conduct experiments this year on a practical scale, so as to be more satisfactory to the public, where the facilities for fermentations and the procurement of material can be provided without the necessity of erecting a special fermenting cellar. Mr. H. W. Crabb of Oakville, Napa county, who has the largest number of varieties of bearing grapes in the State—over 300—with a large wine cellar and all the apparatus necessary for work, has agreed to allow the Commission to place a man in his cellar in charge of experiments, he assisting personally in directing the work, the Commission agreeing to pay for any extra preparations other than those required for his own work, and for any loss that may occur to the portions of the material treated in case a bad result comes from doubtful experiments, which are necessary however to be made in order to determine questions at issue. In this way the Commission expect at a comparatively small cost to produce practical results on a sufficiently large scale to command the confidence of wine makers; and from the comparative tests that will be conducted samples of wine in casks will be procured to be stored and cared for in this city in a small cellar to be fitted up in connection with the Commission, where they can be studied and examined by all interested as they mature. The samples also that will remain in the cellar of Mr. Crabb will serve as a practical school for the wine growers in that section of the State, and for those who may choose to visit it. To those who are uninitiated in the art of vinification, in order to explain the importance of such experiments as will be undertaken, it is only necessary to say that from one given grape from a single vineyard, by varying the method of fermentation a great many results can be obtained, and it is for the purpose of determining the relative value of the different methods, by comparing the results that may be obtained, that such experiments will be undertaken. This year it will be more important to do this work with relation to the large and more important stock of grapes that are cultivated throughout the State, such as Zinfandel, Charbono, Mataro, etc., among the red wine varieties; the Riesling, Burger, Colombar, etc. among the white wines. Connected with this however, as Mr. Crabb has the largest collection of varieties in bearing in the State, there will be a certain number of fermentations made to determine the value of some of the varieties most interesting with reference to future plantations and possibilities of viticulture.

Kentucky produced in the season of 1881-1882 about 60,000,000 gallons of Bourbon whisky. About 15,000,000 gallons have been exported or remain in bond, leaving 40,000,000 gallons consumed after allowing for stocks throughout the country. This business has assumed such enormous proportions within comparatively few years, and there is no reason why the consumption of wine should not increase proportionately within a similar period.

A gentleman who has recently visited many of the principal vineyards in Santa Clara valley reports that the prospects are for not more than a third of a crop. In some places he said there would not be more than half a ton to the acre.

AN IMPORTANT NOTICE TO EXPORTERS.

The Hawaiian Consul-General at San Francisco has prepared a notice to exporters of goods and merchandise to the Hawaiian Islands. It was compiled by Mr. E. R. Hendry whose intimate knowledge with the Custom House Department at Honolulu is a guarantee of its accuracy. It commences by quoting the Act of December 30, 1884 which says that "All invoices of merchandise to be presented at any Custom House in the Hawaiian Kingdom for entry must be accompanied by a certificate of the Hawaiian Consul at the port of shipment, otherwise 25 per cent will be added to the original value and the usual duties levied on the increased value thereof." The notice then gives separate lists of 1—Goods free by the Civil Code from all countries. 2—Goods free by treaty from the United States. 3—Goods that are dutiable, with the amount of the duty plainly indicated on the margin. 4—Goods on which a specific duty is levied and the amounts of such duties. All invoices must be properly certified to before the Hawaiian Consul at the nearest port of shipment. Special attention is called to the clause in the Opium Act which grants power to the Board of Health to authorize importations of opium and its preparations. All persons presenting invoices at the Hawaiian Consulate in San Francisco for Consular certificates are respectfully requested to carefully examine the schedule so that dutiable goods may not appear on invoices of free goods and vice versa. This will effect considerable saving of time for all parties who are interested. Another most important and necessary regulation established by Mr. D. A. McKinley, the Hawaiian Consul-General, is that all invoices must be verified by a member of the firm who is making the shipments or by some party authorized to act for the firm, and a register of all who are so authorized will be kept at the office. These notices will be kept in a prominent position at the office of the Hawaiian Consulate, 327 Market street, and will also be forwarded to all who have trade connections with the Islands. Such business-like methods will be appreciated by commercial men in view of the growing importance of our trade with the Hawaiian Kingdom.

THE ARSENIC SCARE.

In order to test, in case of any accident that might occur through the careless use of arsenic, what would become of the arsenic, if it were introduced into the grapes used in fermentation, some early grapes have been fermented at the offices of the State Commission with known quantities of arsenic added. The product of this fermentation will be submitted to the State Analyst to determine what has become of the arsenic and in what shape it now exists; whether it still remains in solution in the wine, or has been precipitated in the lees. This experiment has been made as a precaution so that the Commission may be able to report upon any extreme case that might arise, although from investigations already undertaken, it is unlikely that the information obtained will be of any practical value.

Of the miscellaneous foreign wine shipments, given in to-day's table, more than half was sent to the Hawaiian Islands, and its value aggregated two-thirds of the whole.

CONDENSING MUST—EXPERIMENTS WITH YEAST.

The vintage is starting in so early this year that it is hurrying up both the wine makers and those who, on the part of the State, are conducting experiments. The making of wine from Zinfandel has commenced this week in one part of Yolo county. Early varieties, such as the Riesling and the Chasselas, are nearly ripe enough to pick in some parts of the Coast counties. At the Bugby Vineyard, near Folsom, the operation of condensing the must from the ripe grapes for shipment East has already commenced. In the laboratory of the Viticultural Commission in this city experimental fermentations on a small scale, preparatory to further and more complete work later on, have been commenced. The experiments already undertaken and more or less finished are as follows:

First—Fermenting on a small scale a sample of Catawba must, reduced at Toledo, Ohio, last year, by the vacuum process, in the proportion of 7 barrels reduced to the volume of 2.

The object of the experiment was to determine whether this must would ferment easily and under what conditions. It was found that a small part of the must, first having water added to reduce it to its original condition, remained several days without fermenting, but finally started in and completed itself, as usually happens where fresh must is used. The other sample lots of the same material were treated with fermenting germs; one with a small addition and the other with an excessive proportion, in order to note the effect on the product obtained. As to the quality of wine so fermented nothing can well be told, because the samples are so small and the nature of the must is foreign to that which we are acquainted with. But as to the effect of the method of fermentation the following is shown: that which had the largest amount of the fermenting germs added went through very rapidly, and, soon after the same was completed, became clear. That which had a small part of the ferment germ, fermented not quite so rapidly but finished promptly without however clearing as rapidly; that which was fermented without any assistance remained in the usual condition of white wine muddy for a considerable length of time. Where an excess of fermenting germs was used, as a test, there remained in the wine a yeasty smell, requiring time to determine whether it will disappear. The quantity of fermenting germs added in this latter case was one-third of an ounce of compressed yeast to about half a pint of must. Beyond the remaining smell of yeast in this sample there is no discernible disease of any kind caused by the extreme test to which it was put. Later on in the season as samples of condensed must can be obtained from the operations near Folsom, more satisfactory experiments will be made.

Mr. Watson is having erected on his place near Glen Ellen a wine cellar, which when completed will be two stories in height and 40x50 feet in size. The winery will be supplied with water, conveyed by pipes from a reservoir with a capacity of 20,000 gallons.—*Sonoma Index-Tribune*

Mr. W. G. Kingsbury, the General Western European Agent of the Southern Pacific Company at London, having severed his connection with the Company, their London office will, in future, be closed.

AN EXPERIMENTAL VINEYARD.

Mr. Crabb is considering a proposition from the Commission which has not yet formally taken shape, to collect and classify a certain number of each of the many varieties which he has propagated, adding to them all that can be procured, outside of his collection, in the State, which he may not have already procured, to be propagated in nursery next Winter, to form the foundation for an experimental vineyard under his charge. The importance of this is in the fact that every known different variety of grape produces different results when fermented, and the number of varieties in the State is now so large that it is important that in future there shall be the means of determining carefully and accurately the value of each, but the danger is that these collections may be confused and a few years hence we may be compelled to again re-import in order to identify the varieties we need as those we have may become lost. Mr. Crabb is the only man in the State who, by practical experience, is acquainted with a very large number of varieties, and can assist more than any other to bring about a careful classification. Others, such as Mr. Drummond at Glen Ellen, are working in the same line and will be able to give valuable information.

THE ARSENIC REMEDY.

Professor Rising of the State University and State Analyst, and Mr. F. W. Morse, also of Berkeley, visited last week the vineyards near Fresno, for the purpose of thoroughly investigating the questions involved in the use of arsenic as an exterminator of grasshoppers. They visited the important vineyards in that vicinity and obtained a great deal of interesting information which will be collated and reported upon in a few days. The Professor has gathered a lot of the dead grasshoppers together with samples of fruit and will be able to contribute important information in this connection. It is the opinion of many who have practiced this remedy that if they had known it a short time earlier in the season they could have avoided much danger and they could have killed the grasshoppers as they were moving by attacking them on the edges of their vineyards. Without anticipating the report of the Professor on this subject it may not be out of place to say that present indications do not warrant any alarm on the part of the public concerning the use of arsenic as practiced, although there will be needed at all times great care in the use of such violent poisons, rules for which may be easily formulated.

THE COMING CROP.

Mr. Wetmore, the Chief Executive Officer has just returned from St. Helena and the vineyards in that vicinity and finds, as has heretofore been reported, that the crops will be quite light, but that there is great variation with respect to the different varieties of grapes, some of them bearing very well indeed while others are apparently suffering from the peculiar conditions of the season. The Chasselas, Colombar, and Burger are appearing to do very well. In some places nearly all varieties are showing well. The prospect is that while the crop is going to be very light the quality is going to be very good.

Please notify this office of an irregularity in receiving the MERCHANT.

WINE AND BEER CONSUMPTION.

From official statistics issued by the Federal Council of Switzerland we give the following figures as the per capita consumption of wine and beer in the principal countries of the world:

Country—	Wine. Quarts.	Beer. Quarts.
Austria Hungary.....	22.40	28.42
Belgium.....	3.70	169.20
Canada.....	0.29	8.51
Denmark.....	1.00	33.33
France.....	119.20	21.10
German Zollverein.....	6.00	65.00
Great Britain and Ireland.....	2.09	143.92
Netherlands.....	2.57	27.00
Norway.....	1.00	15.30
Russia.....	.....	4.65
Sweden.....	.36	11.00
Switzerland.....	55.00	37.50
United States.....	2.64	31.30

From the above table it will be seen that France consumes more wine than all the other countries put together, and that there is a vast field open for the United States in this respect before it can attain anything like such gigantic wine consumption proportions. Belgium and the United Kingdom take a long lead as beer drinking countries, and the United States makes a fair showing. Whisky and beer consumption has increased marvelously in this country in a few years, so why should not wine if the business be judiciously introduced and extended?

A WISE WOMAN.

Belva Lockwood has recently been lecturing in San Francisco. In an interview, the would-be President stated that "I believe in prohibition, but where that cannot be secured I believe in modifying our requests. For instance, here in California I would not advocate the prohibition of wine; in the District of Columbia I would be satisfied with a high license for saloons, for of course it would be impossible to prohibit the sale of whisky in Washington." Belva is a wise woman. When running for office she would probably not object to the consumption of whisky in Kentucky, or beer in Chicago and Milwaukee. In France she would doubtless uphold wine consumption; in Germany or England that of beer. What hypocrisy is disclosed under such light and flimsy veils! Anything to catch a popular vote. At the White House she might not object to a "stiek" in her lemonade or a little *eau-de-vie* in her *café noir*. Even a hot toddy on cold nights before seeking that delicious glow of warmth, derivable from a *negligé* attitude between the blankets, might be permissible. As Belva has not yet attained the Presidency she should, to quote her own words, "where that cannot be secured believe in modifying her requests."

The Fifth Annual Fruit Growers Convention will be held in Los Angeles, under the auspices of the State Board of Horticulture, commencing on Monday, November 16th, and continuing in session throughout the week. It is anticipated that this will be the largest and most important gathering of fruit growers ever held on the Coast, and there will be many important topics for discussion raised through horticultural occurrences of the past few months.

Grape growers should not forget to forward sample boxes of grapes to the Louisville Exposition, from time to time. After delivery at the nearest railway station the packages will be forwarded free of charge if the special tags, which can be obtained at this office, are attached.

MARE RUBRUM.

BY OLIVER WENDELL HOLMES.

Flash out a stream of blood-red wine!—
For I would drink to other days;
And brighter shall their memory shine,
Seen flaming through its crimson blaze.
The roses die, the summers fade;
But every ghost of boyhood's dream
By Nature's magic power is laid
To sleep beneath this blood-red stream.

It filled the purple grape that lay
And drank the splendors of the sun
When the long summer's cloudless day
Is mirrored in the broad Garonne;
It pictures still the bacchant shapes
That saw their hoarded sunlight shed,—
The maidens dancing on the grapes,—
Their milk-white ankles splashed with red.

Beneath these waves of crimson lie,
In rosy fetters prisoned fast,
These fitting shapes that never die,
The swift-winged visions of the past.
Kiss but the crystal's mystic rim,
Each shadow rends its flowery chain,
Springs in a huddle from its brim,
And walks the chambers of the brain.

Poor Beauty! time and fortune's wrong!
No form or feature may withstand,—
Thy wrecks are scattered all along,
Like emptied sea-shells on the sand;—
Yet, sprinkled with this blushing rain,
The dust restores each blooming girl,
As if the sea-shells moved again
Their glistening lips of pink and pearl.

Here lies the home of school-boy life,
With creaking stool and woad-swept hall,
And, scarred by many a truant knife,
Our old initials on the wall;
Here rest—their keen vibrations mute—
The shout of voices known so well,
The ringing laugh, the wailing flute,
The hiding of the sharp-tongued bell.

Here, clad in burning robes, are laid
Life's blossomed joys, untimely shed;
And here those cherished forms have strayed
We miss awhile, and call them dead,
What wizard fills the maddening glass?
What sell the enchanted clusters grew,
That hurried passions wake and pass
In beaded drops of fiery dew.

Nay, take the cup of blood-red wine,—
Our hearts can boast a warmer glow,
Filled from a vintage more divine,—
Calmed, but not chilled with winter's snow!
To-night the palest wave we sip
Rich as the priceless draught shall be
That wet the bride of Cana's lip,—
The wedding wine of Galilee!

IMMIGRATION.

The following correspondence is a continuation of a series of letters that were recently published in the MERCHANT on the subject of immigration. They comprised inquiries from intending immigrants from England with replies to their numerous questions which have been fully appreciated by the parties to whom they were addressed:

W. G. Kingsbury, Esq., London: DEAR SIR:—I am greatly obliged for the S. F. MERCHANT received to-day as well as for other pamphlets, etc., relating to California, with which you have kindly favored me. When you next write to the Editor of the S. F. MERCHANT, as probably you may have occasion to do, will you be kind enough to convey to him my best thanks for the full, candid and courteous reply he has given to the questions in my letter. On the whole there appears to be material ground for thinking that fruit culture in California offers fair advantages to industry, reasonable skill and capital. There is just the risk of over-production and the business being over-done, and I have heard it expressed in some quarters that this is beginning to be felt. It may be difficult to ascertain to what extent this already exists or is likely to exist. But the prospects

seem worthy of careful consideration. Fruit farming would probably not be the only remunerative opening which California affords to young men. With thanks for your favor.

Faithfully yours,

R. TOWNSON.

The Holmes, Clevedon, Bristol, July 7, '85.

Rev. R. Townson: DEAR SIR:—I will forward your esteemed note of the 7th inst. to the Editor of the S. F. MERCHANT that he may see for himself that you appreciate his efforts to answer your questions. Referring to your mention of "over-production" in the fruit business I will just venture to mention that any of the products of the earth may be produced to a greater extent than the population would be able to consume; this was the case with wheat last year. But fruit is an article of food that the more one eats the more he wants and if the price is low, as here in London, but still high enough to be produced at a profit, the consumption will increase to always keep up with the supply. Fruit is so easily preserved, dried, tinned, etc., and so easily transported from one country to another that the whole world is its market. But the surest and probably the most profitable industry will be wine, brandy and olive oil; the citron, prunes and raisins will also figure largely in the exports and there is not much danger of over-producing these things. The increase in wine in California will hardly keep pace with the decrease in France and other European countries.

I am, Dear Sir, truly yours,

W. G. KINGSBURY.

Grafting in the South.

EDITOR MERCHANT:—In January last the writer procured from the Natoma Vineyard Company, through Mr. Charles A. Wetmore, cuttings of Mataro, Carignan and Genache, 250 of each. They were superb stock and came in excellent order. They were carefully heeled in with one bud above ground, watered, once in ten days and left until the last days of March. By this time the buds commenced growth, the Carignan leading. Fifteen acres of my twenty were already in vines, Mission, Malvasia, a few Muscats and Sultanas, the remaining five being in orchard and alfalfa. I proposed to graft the new-comers on Missions, but right then and there was a funeral. All the members of my family protested and the neighbors gathered in and remonstrated on the folly of cutting off good five-year-old Missions to make room for the interlopers. Finally the difficulty was compromised and I was allowed to graft my pets on any very inferior stocks that had been filled into the vineyard in the preceding two years and some Muscats of one year's growth. Under these restrictions I opened my treasures and commenced business by giving one of my protesting neighbors ten cuttings of each kind, each of which he cut into two, making sixty scions, which he grafted on good stocks and has sixty plants as fine as possible, most of them having made a great growth and showing abundant fruit.

I employed at first, say Mr. B., who professed skill in grafting, and on Carignan he has 75 per cent living. Mr. Y., for instance, finished the Carignan and he has 96 good plants for every 100 worked. The latter had never grafted or seen it done, except from watching Mr. B. during one day. B. worked Mataro on Muscat stocks of one year's growth and has 90 per cent living.

Y. worked 72 Mataros and has 69 living. Y. worked Genache and has 95 per cent living. We used no clay and cut the stocks with shears. In grafting old Missions and Malvasias hereafter I shall use clay and the saw. My grafts have made a great growth and many have a fair show of fruit. The runners cover the full 8x8 feet allowed them. My experience is that scions should be growing when used. Much depends on the tilth of the ground; the finer the soil the better the result. I attribute most of losses to the condition of the ground, as most of my outs are where it was very cloddy. I am proud and happy with my success and shall send to the Natoma Co. the coming Winter for other varieties. Our grape crop in the country around Santa Ana is abundant and promises to be of the finest quality. We have had no frost, no grasshoppers, no blight, no mildew. Zinfandel and Malvasia are ripening. Muscats are in the ascendant, many vineyards having sold at \$25.00 per ton and several car-loads have been shipped from Santa Ana and Orange to Chicago.

B. H. TWOMBLY.

Santa Ana, August 4th, 1885.

California Wines.

[Grocer and Canner.]

Some time since it was roughly estimated that the domestic vintage of 1885 would fall short of 25,000,000 gallons, but now that the grape crop is much further advanced, statistics of a more satisfactory character are available. It seems to be conceded that the grape crop is short, and that the vintage cannot possibly equal that of last year, but must fall from two to five million gallons below it. Such a result would reduce the vintage to from ten million to twelve million five hundred thousand gallons, which taking the outside figures would be just about half enough for the annual consumptive demand. With such an understanding of the general situation, it is surprising, to say the least, that theorists who make over-production the basis of their calculations so readily secure an audience with the wine growers.

There is no surplus of California wines outside of this State. Though our shipments to the East for the past six months show an increase over those for the same period in last year, there has not been the improvement in the shipping demand which should naturally have followed the favorable change in overland freight rates. The only effect of the reduction was the diversion of a portion of the ocean traffic to the route by rail. There is but one way to reconcile the condition of our trade with the reports of New York dealers who have the effrontery to make gleeful comment on the increasing demand for California wine, particularly for family trade. They tell us our wines are improving every year, growing steadily in popularity, and that eventually California's product must displace all foreign vintages.

In the face of all these compliments, there is an occasional conflict of figures showing the receipts and sales of California wines in Eastern cities. It is not an unusual thing for sales to exceed receipts by many thousand gallons. In fact the practice of adulteration is open and general. A few dealers in California wine in New York, recently made a very creditable effort to suppress the spurious wine business, but report says that the movement has been a signal failure. Surely this first misfortune

shall not end the struggle. Our viticultural interests will never reach the ripeness nature has ordained for them unless some means is soon found to suppress the poisonous counterfeits of the generous wines of California.

Wine Production in Madeira.

[Bradstreet's, July 18th.]

Consul Charlesworth (British), writing on the past and present condition of the wine trade of Madeira, says that the cultivation of the vine in Madeira dates back to a time immediately succeeding the discovery of the island in the fifteenth century, but did not for some two hundred years after exceed in export value the product of the sugar-cane. The ascendancy once gained, the sugar-cane gave place to the vine, which continued its supremacy until the disease known as the *oidium tuckeri* made its appearance in 1852. This effectually checked the wine trade of Madeira, and in that year it is stated that not a single gallon of wine was made, and but little in the ten years succeeding. The stocks of old wine in the warehouses, representing every vintage in this century, became almost depleted, and so general was the destruction of the vine that it was thought useless to replace with new cuttings those that had died. The total annual production of wine was never actually known, as, up to the year 1875, one-tenth of everything in kind went to the crown, and as a result there was a regular system of concealment of the true yield practiced. It is estimated, however, that from the year 1813 to the year 1825, inclusive, the average exports were 15,835 pipes annually, but from the year 1826 to 1852 the annual average export was 7,512 pipes, or a little less than one-half that of the former period. This disparity appears to be attributable to two causes. In the years of the greatest production, which were during the wars with Napoleon, Madeira was garrisoned with British troops, and being safe, she reaped the benefit of an almost exclusive market, while the vineyards of the Peninsula were overrun with the contending armies. Prior to this period, none but the best wines had been sent abroad, and the brands of Madeira were considered the best in the world. The excessive demand, and consequent high prices that prevailed, resulted in causing wines to be sent to Europe that before were not considered fit for export. Again, until the year 1823 brandy and rum for fortifying wines were admitted to the island at a very low duty. In that year a law was passed prohibiting the importation of any kind of spirit not in bottle, and that at an almost prohibitory rate. This was intended as a measure of relief, and it stopped the importation of brandy and rum, and had the desired effect of causing the distillation of the inferior wines, of which, after the period of inflation, the island had a surplus for which there was no adequate demand.

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Phylloxera at the Antipodes.

[Bradstreet's.]

The Sydney correspondent of *Bradstreet's* writes that the dreaded phylloxera has made its appearance among the vineyards of Camden, New South Wales. The insects are spreading rapidly over the entire district, and very great anxiety prevails regarding the future of the wine interest in the colony. An official investigation shows that this is not a sudden outbreak, but that phylloxera has existed unsuspected for the past six or seven years, and has been gradually spreading. Since attention has been called to the subject it is more than suspected that other districts of New South Wales are also infected. Doubtless effective measures will be adopted to eradicate the disease, but in stamping it out there is danger of stamping out the winemaking industry as well.

Phylloxera first appeared in Australia early in the seventies. In the year 1876 it was demonstrated by government inspection that eighty acres of vineyard in the Geelong district, Victoria, were diseased. So great was the interest taken in the matter at the time by the neighboring colonies, all of which had gone into viticulture pretty extensively, that they joined with Victoria in the cost of destroying the infected vines. The cost of this was £40,000 (\$200,000), and the work should have been thoroughly done, but it was not. Roots of many of these vines are still undecayed, and live phylloxera can be seen when these are dug up. It is supposed that the pest has spread from this centre. This is not at all improbable, as the insect in its winged form has been driven thirty miles by a strong wind.

It is not stated whether this dreaded pest has made its appearance among the South Australian vineyards, which have attained to quite a reputation in Europe, for the quality of their wines; but it is probable that it also has had a visitation. It could not very well escape with an insufficient quarantine or no quarantine at all against Victoria. Even New Zealand, which prohibited the importation of grape cuttings, etc., from the United States to guard against the introduction of the phylloxera, has had to acknowledge its presence. It was recently discovered in a vineyard near Auckland, the owner of which promptly destroyed all his vines and fumigated the house (the grapes grew under glass), sacrificing thereby several thousand dollars. And the question is being debated whether the disease is not also among open vineyards recently planted.

This is a very serious matter indeed, and serves to show that the wine question of the future is by no means settled. California anticipated superceding French wines, to the extent at least of supplying the void caused by phylloxera; but California is plagued with phylloxera itself, although it has adopted very comprehensive precautionary measures, under the auspices of its Viticultural Commission, and it is probable even that it may ultimately overcome the pest. Australia in like manner calculated upon supplying both England and France, and it certainly has laid the foundation for a wine export trade far more promising than California has yet done. It was fully and well represented at the international wine exhibition in Holland last year, while California was without representation. This made a material difference in favor of Australian wines, and from recent correspondence published in the colonies, it

"transpires that a large trade might at this moment be done with France, if the Australian wine growers could supply wines of a light character four months old, at from 1s. 6d. (36c.) to 2s. (50c.) per gallon. A Sydney broker stated that he was commissioned to buy any quantity almost at that price." This would be considered a most liberal offer by California wine makers, but then they did not take precautions or pains to have their best vintages exhibited in competition with the wines of other countries. The Australian wine makers did.

The grape vine grows luxuriantly in almost any soil in New South Wales, and the range of territory is very wide. The average yield of wine per acre, according to soil and climate, is between 200 and 700 gallons. The higher yield is in sandy or rich alluvial soil, having a large admixture of sand. The smaller yield is on heavy clay soil, and the quality of the wine is inferior. The appearance of phylloxera, however, will check development for the present. In 1883, New South Wales had 2,659 acres in grapes, which yielded 589,604 gallons wine. In 1884 the area was 2,405 acres, yielding 441,612 gallons wine. Victoria reported a large increase.

Grape Vines in Tree Tops.

A correspondent says tree tops are often the best places in which to let grape vines run, a remark which leads me to state a few facts: "Just northeast of my house is an Isabella vine, put out in 1858, and for fifteen years I made that vine keep to a trellis six feet high, but it never ripened a cluster well. A sap-runner, however, ran through the fence to a lilac bush in the yard of a neighbor, and mounted to my apple tree by the ends of the limbs that hung over my neighbor's grounds, and covered all the north side of the tree, where it could get no direct sunshine, but could fully ripen its grapes as it did, or rather does yet, in its own way. About five years ago it reached the north top of that old apple tree, which is now nearly 40 feet high, and that vine just let itself out on a grand spread without the pruning knife or any care except a slash of considerable magnitude when it attempts to appropriate the south side of the tree. That vine makes me climb every Fall on a ladder, 25 feet high, much to the amusement of my neighbor, who comes along just as I am picking the sixth or eighth half-bushel basketful of the nicest ripe Isabellas, and says, "There! you are at it again; standing on the top rung of that ladder, picking those black clusters!" Or he says, "Yes, yes, yes; Can't you give us a bunch of that ar'sky-raker vine. You are particular to hang those grapes up out of the way." But the bushels of ripe grapes, when one is hardly ever edible on the trellis, makes me quite insensible to his laughter. Another, a Rogers No. 1, that is almost like a foreign grape if properly ripened, I have let run up the north side of another apple tree, and that gives its bushels of grapes yearly. The tall pear tree, too, that stands in the southeast corner of my lot has got into the way of having a vine in it. But the vine knew enough to go up on the fence in the corner, and thus get into the pear tree without my knowing anything about it, and has been joking me for several years over the exploit of the richest, blackest, largest grape bunches I have on my premises. So my advice is, if you have tall trees that give you valuable fruit, let a grape vine loose in the corner of the fence, and it may give you your best grapes; at any rate it will demonstrate the contrary of the usual rule that "the nearer the ground, the sweeter the grapes."—*Country Gentleman.*

Co-Operation in Raisin Packing.

From the *Santa Ana Standard* we give the following extract from a report of a committee of a raisin packing company proposed to be established in the South:

"Much complaint has been made by Eastern buyers of California raisins of the lack of uniformity in grading and packing, and consequently our raisins have brought lower prices than foreign raisins of the same grade. It cannot be expected that there will be uniformity in the packing when each grower grades and packs his own raisins. There will probably be as many different styles of grading and packing as there are packers. Again, it would be impossible for each packer to make a reputation and name in the market for his particular brand. An owner of ten to twenty acres of Muscat vines would scarcely be able to supply the wholesale dealers of the country with half-pound samples. By an organized effort we can secure (1) uniformity of packing, (2) the reducing of commissions, (3) lower rates for boxes and other packing material, (4) more effective co-operation with the raisin producers of other districts for such ends as our common interests might prompt, (5) the advantage of shipping in car-load lots. The charges to each shareholder for grading and packing will be made as near cost as possible. The boxes will be marked with the name of the company and the grade of the raisins, and to distinguish one man's goods from another, each stockholder shall have a small number which shall be stamped in small figures on his boxes. After the raisins are packed and the packing paid for, each stockholder will have the privilege of disposing of his raisins as he pleases. When Eastern dealers learn that raisins put

up by our company in large quantities, and honestly graded and packed can be had in car-load lots, they will buy them at our warehouse for cost. The sampling of one or two boxes will be sufficient. It will not be necessary to examine one box in ten or twenty as would be the case when packed by individual growers."

The Raisin Crop.

The *Woodland Democrat* publishes a letter addressed to Mr. R. B. Blowers of Woodland, Yolo county, by a Chicago house on the prospects for the coming raisin crop. As it contains good news for raisin makers and justifies the opinions already expressed by the MERCHANT we reproduce the following extracts:

"There is considerable excitement here over the coming crop of California raisins, and we understand that a number of the dealers are already commencing to contract for this season's crop. The trouble they are having in Malaga with the cholera will undoubtedly result in a very diminished shipment from there this season, and should the cholera continue until packing time, the prospects are that their raisins will be quarantined. Even should they not be, the fact that cholera has been prevalent in that district will cause a strong prejudice against them. The entire stock of raisins has been cleaned up, and this coming crop will meet a clean market, and from the activity displayed by the dealers here now, and what information we can gather, we think there is every prospect of our California raisins selling rapidly and at good prices this season. As yet, we are unable to set any figures as to what we think will be the probable price, but we think it will be safe to figure on higher prices than last year's sold for."

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The Joint Appropriation.

[San Francisco Chronicle.]

A controversy has arisen between the Professor of Agriculture in the University of California and the Viticultural Commission over the ten-thousand-dollar appropriation made by the Legislature for viticultural purposes. The Commission wants a cellar established in San Francisco where tests and analyses can be made and the results placed before wine makers from every part of the State. Professor Hilgard objects to having any part of the work done at San Francisco. He wants it done at Berkeley, and utterly declines to be responsible for scientific experiments performed outside of the University. He says his engagements are such that he could not be present at meetings in this city, and could not meet the officers of the Commission in consultation unless they come to Berkeley. The good sense of the members of the Commission and the University professors will probably devise an adjustment of the dispute so that the \$10,000 appropriation shall not be lost by the wine making interest. Without presuming to take sides in the controversy the Chronicle may suggest that San Francisco is more accessible than Berkeley, and that experiments conducted here would probably meet the eye of more people than experiments conducted in the charming but somewhat out-of-the-way settlement of Berkeley. The idea which suggested the appropriation was that the wine makers of the State should be educated in their business. Where can they be best educated—in San Francisco, where most of them come once or twice a year, or in Berkeley, which very few people ever visit? It is not by any means desirable that the experiments should be conducted in a place where the skill and learning of Professor Hilgard would not be available. But surely he can come to San Francisco as easily as the vine growers of the State can go to Berkeley. It seems to be the old question of the mountain and Mahomet. Suppose the mountain won't or can't go to Mahomet, doesn't Mahomet think he might stretch a point and good-naturedly go to the mountain?

Genuine Co-Operation.

From the Fresno Democrat we learn that the grape growers of Scandinavian Colony have formed a joint stock company to build a winery. The following are the officers: E. L. Davis, President; W. F. Plate, Vice-President; Wm. More Young, Secretary; and L. A. Blasingame, Treasurer. \$15,000 was the amount of capital stock, divided into shares of \$50 each. Over one-half of the stock has been taken, and about half of each man's stock has been paid up, either in labor or coin. It was appropriately called the poor man's enterprise, each man being allowed to pay for half his stock in work. The winery which is 104 feet square, two stories high and built of adobe, is located four miles northeast of Fresno. The company own five acres of land bought from Wm. Helm. Nearly all the work so far has been done by the stockholders, and but little actual cash has been expended. The cooperage, too, has been the work of these same parties, so that the building and cooperage, when everything is complete will have cost less than \$8,000. When the last rafter was raised there was quite a gathering of those interested in the enterprise which partakes fully of genuine and harmonious co-operation, and is an example that might well be followed in other localities.

Recent Sugar Speculation.

[Bradstreet's.]

The recent advance and more recent decline in the sugar market has been an excellent illustration of the influence of speculation and of the power of the speculator. It only the machinery necessary for manipulation had been perfected the success would have been complete. One branch of the trade, the most extensive, that of beet, is entirely conducted upon standards, a fact which furnishes one of the prominent elements of speculation. Beet sugar in England can be bought and sold with the same facility as wheat or corn in this country. Futures are dealt in to such an extent that in London and in some of the beet centers of Europe beet-sugar clearing-houses have been established. The bulk of the transactions are confined to Mincing Lane, and during the late rise this new method of buying and selling upon paper was carried to such an extent that a complete revolution in the raw market at one time appeared certain.

The establishment of a beet clearing-house is an indication of the extent to which the speculation in this class of sugar has been carried. This brought into existence a large class of non-producers or middlemen whose services are neither desirable or necessary to the conduct of the trade, the old method being by far the most direct, the refiners buying from the producers through the auction rooms, and they in their turn selling direct to the distributor. These beet speculators, who occupy exactly the same position as out wheat gamblers do on this side, obtain their livelihood not by the legitimate handling of merchandise but by a regular system of "bull" and "bear" manipulation of the market. With the assistance of a cry of short beet crop these speculators managed to put the price from 10s. to 17s. per cwt., or a rise of 70 per cent. They kept it at this price for some time, and had it not been for the regulating effect of cane sugar it might have been retained at that price, or even advanced higher. Cane sugar, owing to the variations in its color and extensive range in quality, cannot be dealt with in the same manner as beet, but must be bought from sample. It was through the influence of large offerings of cane sugar that the market was broken and prices reduced nearly 23 per cent. An advance of 70 per cent and a decline of 23 per cent upon any staple within six months is certainly a rare occurrence indeed, and probably another instance cannot be found where such a rise took place in such a short time, and in the face of the largest visible supply ever known in the history of the trade. However, such fluctuations only show the power of the speculator, particularly when the machinery of manipulation can be fully brought into play by selling futures.

Legitimate dealers are now trying to counteract the influence of the beet speculators. Refiners have already tried reducing production, but without success. It is now suggested that the trade buy nothing but landed parcels, thus placing the carrying responsibilities upon the speculator. But at present there appears to be a lack of concerted action among the English and Scotch refiners. At the same time the struggle for supremacy will be watched with interest on this side, for if the legitimate trade is successful it will rid the sugar market of a disturbing element as well as an incubus that must, so long as these speculators exist, add to the cost. The sympathies of

the consumer and the legitimate merchant must necessarily be arrayed against the non-productive element—the speculator.

Propagating Phylloxera—A Timely Warning.

Under the above heading the P. C. Advertiser of Honolulu draws attention to the danger of importing phylloxera to the Hawaiian Islands in plants or cuttings obtained from nurseries in the neighborhood of Berkeley. We know of one shipment of roses, carnations and other flowering plants that was sent to the Islands last Fall from a nursery in the vicinity mentioned, and trust that the importer will not be the unintentional medium of disseminating the pest there. It appears that our friends on the Islands are more alive to the dangers of the case than we are in California. Our contemporary says:

"The attention of persons planting or about to import vine cuttings from California is called to the fact that Professor Hilgard, of the State University, has been experimenting with phylloxera in a way that may become disastrous to the vines planted along the slopes of the Contra Costa range fronting on San Francisco bay, and mayhap also to the new vineyards in the Livermore Valley. It is therefore of the utmost importance to refrain from obtaining rooted vines or cuttings from any nursery or vineyard in the neighborhood of Berkeley University until the result of Professor Hilgard's experiments in the propagation of phylloxera has been ascertained. If this pest be introduced into these Islands it will put an end, for years to come, to the attempt to establish grape culture on a large scale.

It should be explained that Mr. E. W. Hilgard is Professor of Agriculture in the California State University, where he has established an experimental nursery, in which almost every variety of plant and shrub adapted to the climate of the middle, southern and northern California is to be found crowding each other. In a sheltered nook of this nursery he has established a phylloxera preserve, and amuses himself watching the development and distribution of this enemy of the grape vine and of mankind. This learned Professor thus reports progress in his experiment:

We have nursed at the University a little private experimental plot that is infected. * * * The coming out of the winged insect through which the infection is spread far and wide on the wings of the wind, usually happens in about five or six weeks. This year (1884), with Summer rains, it has been through in three months and a half.

This is Professor Hilgard's own report, and it suggests an inquiry as to his mental condition, which, as a State officer engaged in a work of such superlative public mischief, should not be overlooked. Just what the Board of Regents will do in the matter it is impossible to say. Straining at gnats and swallowing camels has always been a way this Board of Regents have had, but we fancy the Hilgard phylloxera camel will stick in their throats. In any event, it is not safe to import any grape vine cuttings, rooted vines or seed from the Coast at present, when we find the Agricultural Department busily engaged propagating and "spreading infection far and wide on the wings of the wind" by the winged phylloxera insect. It may pay the State of California to maintain a department to ruin its wine industry but it certainly will not pay this Kingdom to run the risk of infection from that source."

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F. M. Murphy, " Arizona.
F. W. Noble, " Michigan.
W. H. Sebring, " Florida.
P. M. Wilson, " N. Carolina.
J. C. Truman, " New York.
E. Spencer Pratt, " Alabama.
E. L. Koche, " S. Carolina.
C. J. Barrow, " Louisiana.
Henry Merrell, " Wyoming.
P. Langhammer, " New Mexico.

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION. NEW ORLEANS.

JURY REPORT

Application No. Special.
Group. Class.

COMPETITION.

The undersigned jurors in the above entitled class having carefully examined the exhibit made by the ANTISELL PIANO COMPANY OF SAN FRANCISCO, CAL., and all competing exhibits, concur in recommending the award of a FIRST-CLASS MEDAL AND DIPLOMA, THE HIGHEST AWARD OF MERIT FOR PIANO EXHIBIT FOR STRENGTH, DURABILITY, EXCELLENCE OF TONE, AND FOR THE SUPERIOR QUALITY OF LUMBER USED IN THE CONSTRUCTION.

Dated this 27th day of May, 1885.
JAS. C. TRUMAN,
FRANK BACON,
GEO. L. SHROUP, } Jurors.

It will be observed that the President of the United States Board of Commissioners, Governor Bacon of Kansas, was also a member of the jury that gave the Antisell piano award; also Colonel Truman of New York and Colonel Shroup of Idaho. These gentlemen not only signed our jury report, but also the special mention. We thus give positive proof of our victory. Four other awards are claimed by piano manufacturers, but we have never seen any evidence of their premiums, not even to the value of a leather medal—simply their own assertion. False telegrams and publications from New York won't humbug Californians. It won't do to say that the Antisell pianos were not entered for exhibition or competition. No piano could be got into the exhibition unless regularly entered. New York manufacturers are trying to break down our awards, as they don't like to see San Francisco carry off the honors.

T. M. Antisell Piano Co.

24 to 28 ELLIS ST., S. F.

CHEAP WINES.

The following is the first chapter of Dr. Robert Drunt's "Report on Cheap Wines" published in London in 1873. The first edition originally appeared as a series of articles in the *London Medical Times and Gazette* in 1863 and 1864. The author was President of the London Boards of Health and is the author of the well-known medical work "Vade Mecum." Since his work on cheap wines was published, which we propose to reproduce in the MERCHANT from time to time, the author would probably have had reason from a more extended knowledge of the subject, to modify his views in some respects. The chapters, however, will be found full of interest, and valuable information and suggestions.

CHAPTER I.

Object of the book: vast scope of wine knowledge—Importance of it to the medical practitioner—Use of wine as a restorative—Wine often better than tea—Promotes sobriety and good morals—Empirical philosophy of wine—Knowledge of wine ought to be cultivated by all who buy and drink it.

In the following pages I propose to report upon the cheap wines which the public are now able to procure through Mr. Gladstone's remission of the wine duties, and the enlightened policy of the Emperor of the French. I am not going to write a treatise on wine in general, for that would be far too ambitious a task and too voluminous. One moment's glance will show the multiplicity of branches which œnology or the science of wine is divided into. There is Ampelography, or the knowledge of the innumerable varieties of Vine. There is Viticulture, or the science of the cultivation of the vine. There is the knowledge of the various processes involved in the Manufacture of wine, and the care of it till fit for use. There is the knowledge of the Chemical composition of wine, the various constituent parts into which the analytical chemist can divide it, and their proportions and qualities. Too closely allied with this is the science of the Wine-forgery, the wretch who prostitutes his chemical knowledge to aid in the fabrication of sham wine, and the concoction of various fraudulent imitations. Then comes the skill of the Merchant, who knows what wine is wanted, and what the public should pay for it so as to remunerate him for his judgment in choosing wine, and the risks he runs. And I may say that there is no greater public benefactor than the honorable wine merchant who puts new kinds of wine within our reach. Then there comes the knowledge which the householder and consumer should possess, as to what kind of wine is wholesome and desirable to drink, where it may be had, and what it should cost. Lastly, there is the medical practitioner, who should know the virtues of wine as an article of diet for the healthy, and should prescribe what, when, and how much should be taken by the sick.

In the following pages I have endeavored to supply information, not such as is needed by the cultivator or wine merchant, but simply by the public and the doctors, with just such a glimpse at wine matters as shall enable the courteous reader to join in any wine talk which may be going on in his presence.

It is most especially the interest of the medical practitioner who lives amongst a luxurious town population to have at his fingers' ends a knowledge of the character

and properties of the chief wines of the day; and this is a branch of knowledge that the practitioner, even in the most primitive and rural districts, need not despise. We must take people as we find them. In large towns there are always a number of wealthy persons who think much of their dinner-table, and who would have a very mean opinion of their medical attendant if he showed himself not well acquainted with a gentlemanly style of living. I recollect, years ago, when beginning practice, how insignificant I felt, in comparison with Dr. —, whom I met in consultation at the house of an important patient. This was not because I did not "know my profession," to use the common phrase, for Dr. — was one of a very old school; but his real forte was his knowledge of cookery and wines; and before that my light was soon put out. I took the lesson.

Certainly, there is no reason why those wines which are abused by the gourmand in order to enable him to eat *too much*, may not be used by the medical practitioner to help his patients who have a difficulty in eating *enough*.

A large proportion of the patients who come to most of us do so for some failure of nutrition. Be it in town or country, I will undertake to say that the number of invalids who require tonics is far greater than of those who need anything like depletion. The difficulty with delicate children is to get them to eat. There are the cases of "anæmia," "anorexia," and "debility," which figure by scores on the out-patient book of all the dispensaries that I have ever been acquainted with,—there are the agueish and the neuralgic affections of the poor, and the illnesses caused by hard work and exposure, by anxiety of mind, and those caused by child-bearing and protracted suckling amongst poor women. And in all of these cases some refresher to the appetite is needed. Besides, be an illness what it may, most practitioners finish off their patient with a "light tonic."

Now, what is a light tonic? A little dilute acid, a slight bitter, a small quantity of some aromatic, a little alcohol, and some fragrant ether. But this is just the "draught" that Nature has brewed ready to our hands in the fragrant and appetizing wines of France and Germany!

Surely if a patient has two shillings to spend on something that will make him eat, he ought to be far more grateful to us if we provide him with a bottle of wine than if we give him a "mixture." I often used to prescribe a so-called Chablis at about 1s. 6d., a bottle, sold in Dean street, Soho, and have found even poor dispensary patients satisfied with it. But, as I shall explain presently, patients must first of all be taught what *wine* is, and the right way to use it; and the difference between drinking pure *wine* as a refreshing beverage, and gulping down a *dram* of bad spirits disguised as wine—such as the "People's own Sherry" just to create a feeling of warmth under their ribs. On these points I shall dilate presently. Meanwhile, in order not to be misunderstood, let me say that everything in Nature and Art has its use; and of course there are conditions which quinine and the more serious tonics, or which brandy can cope with, but which pure wine cannot.

But it is not merely in a medical point of view, but as a friend of sobriety and morals, and with a view of raising the status and culture of large classes of society, that I venture to advocate the

larger use of *wine*—i. e., pure wine—as a beverage. It might well take the place of a good deal of beer, tea, and spirits. There are large numbers of townspeople, and especially of women engaged in sedentary occupations, who cannot digest the beer which is so well suited to our out-door laboring population. The very tea which is so grateful to their languid, pasty, flabby tongues, from its astringent and sub-acid qualities, and which also comforts their miserable nerves, has this intense drawback—that when taken in excessive draughts, and without a due allowance of food, it begets dyspepsia, and that worst form of it which impels the sufferer to seek a refuge in the gin bottle. Cheap wine would cut off the temptation to gin, and, with an equal bulk of water, would be found, in certain cases, a happy substitute for tea. I know a good deal of the better class of needlewomen and milliners' assistants, and speak from experience.

If instead of half the tea at the English middle class breakfast an earlier luncheon with a glass of light wine were given, it would greatly abridge the hours of half hunger, half dyspepsia, which many school girls, shop girls, and other sedentary middle class women in towns suffer between their breakfast and early dinner.

For purposes of social exhilaration, amongst classes who are *not* out-door laborers, beer is too coarse. Man, as a social animal, requires something which he can sip as he sits and talks, and which pleases his palate while it gives some aliment to the stomach, and stimulates the flow of genial thoughts in the brain. No one who has ever made the experiment will fail to give the preference to wine over spirits—naked or disguised—whether as gin or cheap incendiary sherry—or can refuse to give a helping hand to any "movement" that will banish spirits to their proper place as medicines for the sick and aged, and not as beverages for the healthy. Civilized man must drink, will drink, and ought to drink; but it should be wine.

Let me say here, that the only real test for wine is the empirical one. It is impossible to dogmatize on it *a priori*; to say that such a wine, for instance, must be good in such and such cases, because it contains certain ingredients. The only questions we need ask are, not what is the chemical composition, but do you like it, and does it agree with you and do you no harm? The stomach is the real test-tube for wine; and if that quarrels with it, no chemical certificate and no analysis is worth a rush.

AN EASTERN LEGEND OF SILK.

[By Miss Nellie Lincoln Rossiter, Practical Silk Culturist, New Lisbon, Burlington Co., New Jersey.]

The secrets of the silk industry were carefully guarded in China for several centuries. An interesting legend has preserved the circumstances and approximated the date of the spread of the industry westward. About the time of the Christian era, Buddhism was the state religion of Cashmere; thence, within less than a century, it enrolled among its followers the hardy mountaineers of Thibet and the wild tribes of Turkestan. An extensive kingdom, named Khotan, whose boundaries cannot now be traced in the vast region at present called Chinese Tartary, though probably within Turkestan, was then independent. The capital of this kingdom was also named Khotan and was famous for the beauty of its women.

A formal deputation was sent from the kingdom of Khotan to the sovereign of China, who is euphoniously described as the King of the East. The chief object of the Embassy was to obtain silk worm eggs and mulberry trees. This request was peremptorily refused, and the only immediate result was the issuing of stricter commands to the subjects of the King of the East, preventing the export of the desired articles across the frontier. Some time afterward, however, the King of Khotan seems to have become weary of the famous beauties of his royal city, and sought in marriage the daughter of the King of the East. This suit was successful, and eventually another Embassy was sent from Khotan, this time to bring the Princess to her spouse, after the Eastern custom. Before the Embassy started for Khotan the King instructed the chief officer to communicate privately to the lady, the startling fact "that there was no silk in the land of the bridegroom," and that if she ever wanted to wear anything more luxurious than the hair of Cashmere goats, she must bring with her the means of producing the coveted material. The Princess took the hint, and the persons of the royal family of China being sacred, she secreted silk worm eggs and mulberry seed in her turban. All the members of the Embassy except the Princess were carefully searched for the contraband articles, when returning to Khotan, but nothing was found. The Princess is said to have planted the seed herself, and to have carefully supervised the development of the worms. Khotan ultimately became the site of a thriving silk industry. The Buddhist monastery of Low Che marks the spot where the priceless gift was deposited from the turban of the Princess. The legend is embalmed in the records of the monastery.

The imports of raw silk at the ports of New York and San Francisco, for the month of July, 1885, were 1,174 bales, valued at \$751,210. Imports of waste silk, pierced cocoons, etc., in the month, were 93 packages, valued at \$12,535.

SILK CULTURE.

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CALIFORNIA VINEYARDS.

Mr. W. Scheffler's Vineyard and Distillery—Immense Crops of Grapes—Favorite Kinds Grown—Sonoma Valley—Haraszthy's Vineyard—Phylloxera—Winkler's and Dresel's Cellars.

[By Thomas Hardy, Bankside Vineyards, Adelaide.]

We next visited the vineyard of Mr. W. Scheffler, about a mile west of Mr. Thoman's. The road lay through an almond grove, kept in splendid order and bearing abundantly. Mr. Scheffler's place is beautifully situated at the foot of hills, and a splendid view is obtained from his residence. His vines are planted on the slopes of the hills on reddish soil, and consist of about 100 acres in bearing and another 100 rented from other people; he is also a buyer of grapes for wine making. The winery is large and lofty and of one story, and furnished with six rows of vats of 1,000 gallons each, with three broad roadways between them, and doors at each end of the roadways, so that loads of grapes can pass right through the building.

Mr. Scheffler has a different system of making red wine from any others I have seen. The grapes are put into the vats without crushing, and fermented about ten days, when the wine is drawn off, and water put on the skins instead of pressing them, and then when drawn off is distilled, and the skins also put through the still. The white wines are crushed by hand mills placed over vats; a powerful Boomer press is used to press off the white skins. The skins are all carted from the wine house to the distillery, which is some distance away, and emptied into a large shallow tank, and from thence carried up by an elevator band into the distilling vats, and water put with them to facilitate the boiling, which is done here as at other places, with a coil full of holes near the bottom of the vats.

When the distillation is completed the door at the bottom is opened, and the force of the steam in the vat is sufficient to drive out all the contents of the vats into a shallow tank, the liquid part is allowed to drain away, and the skins are carted out for manure. The rectifying still is of a peculiar construction, and made to distill in vacuo. It is claimed that a better spirit can be got in this way, as it can be run off at a lower temperature. I do not quite understand the principle, but I tasted some very excellent brandy made with it. I think Mr. Scheffler said it was the only one of the kind in the State. Mr. Scheffler's cellars are rather small compared to some others, but cool, being under ground or partially so; they are well filled with the usual oval oak casks of about 1,500 gallons each, besides casks of 150 gallons and smaller for the transportation of wine, and are neatly and cleanly kept.

I noticed in the warehouse some rope made on purpose for tying vines, apparently a coarse manilla, and done up in bales of 100 pounds; also sulphur matches for cellar use, which are bought by weight ready made. They are much thicker than those we use and make ourselves.

These were all the vineyards we had time to visit in Napa, which is undoubtedly a favorable spot, and nowhere have I seen vines look better. There are now between eleven and twelve thousand acres planted with vines in the valley, over four thousand acres of which were planted last season. The yield on the rich bottom land from young and healthy vines is almost fabulous. Mr. Krug's distiller told me that

one of the farmers who brought in grapes last vintage had close on fourteen tons to the acre from six acres, and from five to six tons is not thought at all extraordinary, but I do not think they are getting quantity and quality both there, any more than elsewhere. I find a very marked difference in the wines made from grapes grown on the hillsides and those of the plains, and the principal men also recognize it and are now planting largely the hillsides, which are admirably adapted for vines where not too steep, as the soil is a reddish loam, full of stone, but no lime that I could see in any part of the valley.

The flats are very liable to frost, and the last year's crop was very materially reduced from that cause. The hillsides are almost exempt from it. The annual rainfall is good and averages twenty-six inches, and in addition they have cool and damp nights from the fogs drifting over from the sea during the summer months, the same as they get in San Francisco, so that even if they have very little rain, anything like a failure of the crops is a thing unknown. Land in the valley suitable for vineyards is very high in price at present, and some has been sold near the town at \$200 (or £40) per acre, and vineyards in bearing as much as \$800 per acre.

There seems to be a great difference of opinion among the growers as to the best kinds to plant. The Zinfandel, a Hungarian grape, seems to be the favorite for red wine and makes a light clarety wine, and would be an acquisition to us in Australia if we could get it without the risk of the phylloxera. A great many of the older vineyards are planted with the Mission grape, which was introduced here by the Jesuit Fathers over 100 years ago. It is an excellent bearer and very hardy, and they do not seem in any hurry to get rid of it, although some are grafting them to other kinds. I am told that the bunch and berry are like our Grand Turk, and the leaf and growth of the vine is much like it, but the skin is very thin and it is considered an excellent table grape. It is said to have been brought from Spain. Among the white grapes the Riesling, of which there are several kinds, are considered the best. Next to them is the Gutedel, or Chasselas, and several others. I have no doubt this is the country to grow the finest clarets and Riesling; also a large quantity of cheap white and red wine can be produced here to great advantage when a market is well opened up for it. The great facilities for sending it away at a little cost by rail and steamer, the easy working nature of the land, and the enormous crops ensure that, if phylloxera does not come in the way. I am told that it is found in several places in the valley, but is not thought to be spreading fast, and very few seem to care much about it in this valley and go on planting in spite of it.

Some are grafting the Lenoir, an American vine from Missouri, which is said to give a good wine of very high color, and to be proof against the phylloxera. The reason given for grafting this kind on the Mission vine is to be able to get a large number of cuttings in a short time, as there is a great demand for them from all parts. The cultivation generally is very thorough and costs from £5 to £8 an acre. They are all planted so that they can be worked with the plough and scarifier both ways. The labor in the vineyards is mostly done by Chinamen, whose wages are a dollar a

day. They are also employed in some of the cellars on account of their not drinking and general steadiness and adaptation for the work. Pruning is mostly done with the shears instead of the knife, and generally by daywork. Many are still planting at close distances—6 feet by six feet, and a row of maize is often grown the first year between the rows of vines.

The next place visited was the Sonoma Valley, which runs nearly parallel with Napa to the westward, a moderately high range of hills separating the two valleys. We called on Mr. E. Haraszthy, son of the late Mr. A. Haraszthy, who did a great deal to foster vine growing in California. He at one time owned the Buena Vista vineyards at the foot of hills on the western side of the valley, a view of which is given in his book on the vines of Europe. They were 600 acres in extent, with splendid cellars and residence, but now are nearly all gone to ruin, the phylloxera having made great ravages among the vines eight or ten years ago. I believe this was the first place where it was observed. Mr. E. Haraszthy's residence is on the flat, his vineyards are not extensive, but he has a large cellar and is a purchaser of grapes. He says that himself and others are planting again in the old ground, where the vines have been destroyed by the phylloxera, and they believe that by the use of a compost made with stable manure, mixed with lime and gypsum in the proportion of 300 each of the two to 1,400 parts of horse manure, that the vines will withstand the phylloxera. He has tried it now for three years and found it succeeded and has great faith in it; but I am inclined to doubt, and think it a great piece of folly to attempt to plant again in the way they are doing.

He says that fully one-fifth of the old vines in the valley are already destroyed and that there is hardly a vineyard free from it, but it takes from five to ten years to destroy a vineyard, and they calculate on getting enough to pay them in spite of it, and, strangely enough to me, that land is worth as much as it is in Napa. Some of the valley land is of too strong a clay for vineyards, as it is difficult to work and bakes into hard lumps in the summer. Fruit trees of all kinds are grown to supply the city demand. Peaches are very much troubled with the bladder and apricots and pears are blighted as bad or worse than ours.

Passing the old vineyards of Buena Vista, which have a sad and disheartening appearance after seeing the luxuriant Napa Valley, we come to the vineyard of Mr. Winkler, one of the oldest vigneron in the district. His vines are partly on the hillsides and consequently the wines are of a better quality. He is planting the Lenoir grape where the old vines have been destroyed. He showed us some very good young Zinfandel wine; his cellars are pretty old and apparatus not quite so modern as some we have seen. He uses a hydraulic jack to press with, but does not recommend it.

Adjoining Mr. Winkler's are the cellars and vineyard of Mr. Dresel. Mr. Dresel, Jr., was getting off a large parcel of wine for the Eastern States, where they sell their wines, but say that they have a hard fight in competition with the merchants of San Francisco. They are sending away wine of the last vintage and filtering it as it is filled into the casks. The white wines are fermented in 150 gallon casks, and kept filled up. They rack off in December and then sulphur, but are careful not to use

any during the fermentation, as it retards that process, and their object is to get as thorough a fermentation as possible. At the first racking the casks are piled one on the other three deep. They are now (18th June) racking the second time, what is not going away and blending it in a 4,000 open vat set high up, so that it can be run from it to any part of the cellar. Red wines are kept in casks of 1,500 gallons.

Mr. Dresel kindly showed us various wines, especially some from the new wine and up to six years old, made from the Mission grape. The oldest resembled a good Verdelho, with a sherry flavor, and shows that from some land the Mission grape is a better one than some would have it to be. Riesling very good, Gutedel fair, also a white wine from the juice of the Zinfandel, rather full of acid, reminding one of the wine made at Gawler Park from the Pineau. Mr. Dresel's cellars are pretty extensive and a large quantity of wine and brandy is made from their own and purchased grapes.

Immediately adjoining are the vineyards and cellars of Messrs. Gundlach & Co., who have a large business in San Francisco. The foreman was away looking after some hay work and two old Chinamen in the cellar, in answer to some questions, replied "No savee," so we did not get much information. We saw that they are putting down a large hydraulic press and steam-pump in a shed outside the cellar. Some Chinamen were engaged in "suckering" in the vineyard and sulphuring after. The old vines here are trained very high, some of them two and a half to three feet in the stem, but they are not doing it now with the young vines, but growing them low.

Shipping Grapes to England.

The Wynberg Times of South Africa, says: "The Colonial Viticulturist, Baron von Babo, has succeeded where all have failed hitherto, this gentleman having sent colonial grapes to England so carefully packed that they reached their destination fit for Her Most Gracious Majesty the Queen's table. Last season several attempts were made to introduce grapes from Constantia and elsewhere to the London market, but all reached England unfit for consumption. Much credit is therefore due to Baron von Babo, for having overcome the obstacles which have hitherto prevented our competition in the grape supply to the English markets. It is well known that good grapes fetch 2s 6d and upwards per pound during the London season, commencing in May, and with care our grapes could compete successfully. We trust Mr. Albrecht, of the "Sillery," and other farmers will make further trials with shipments of grapes."

Mr. H. W. Crabb reports very short crops of Mission, Malvasia and Riesling grapes in his neighborhood.

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313 SACRAMENTO ST. San Francisco.

REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and San Francisco, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country.

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the Bermal Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

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Two-Story Brick Building,

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Two thousand tons Wine Grapes raised here last season. Will sell the whole property or the Cooperage, in lots to suit. This is a rare chance for engaging in this business. For full particulars inquire at office of

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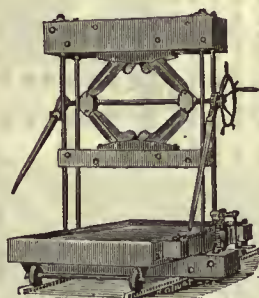
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I desire to call the attention of wine and Cider makers to my Improved Press. With this Press the movement of the follower is fast at the commencement, moving one and a half inches with one turn of the screw. The last turn of the screw moves the follower one-sixteenth of an inch. The follower has an up and down movement of 2 1/2 inches, with the double platform run on a railroad track. You can have two curbs, by which you can fill one while the other is under the press, thereby doing double the amount of work of any other press in the market. I also manufacture Horse Powers for all purposes. Ensilage Cutters, Plum Pitters Worth's System of Heating Dairies by hot water circulation. Send for circular. W. H. WORTH, Petaluma, Sonoma County, Cal.

Testimonials from I. DeTurk, Santa Rosa; J. B. J. Portal, San Jose; Ely T. Sheppard, Glen Ellen; Kate F. Warfield, Glen Ellen; J. H. Drummond, Glen Ellen; Joseph Walker, Windsor; John Harkelman, Fulton; Wm. Pfeffer, Guberville can be had by applying for printed circulars.

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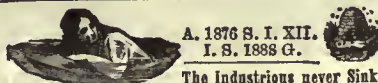
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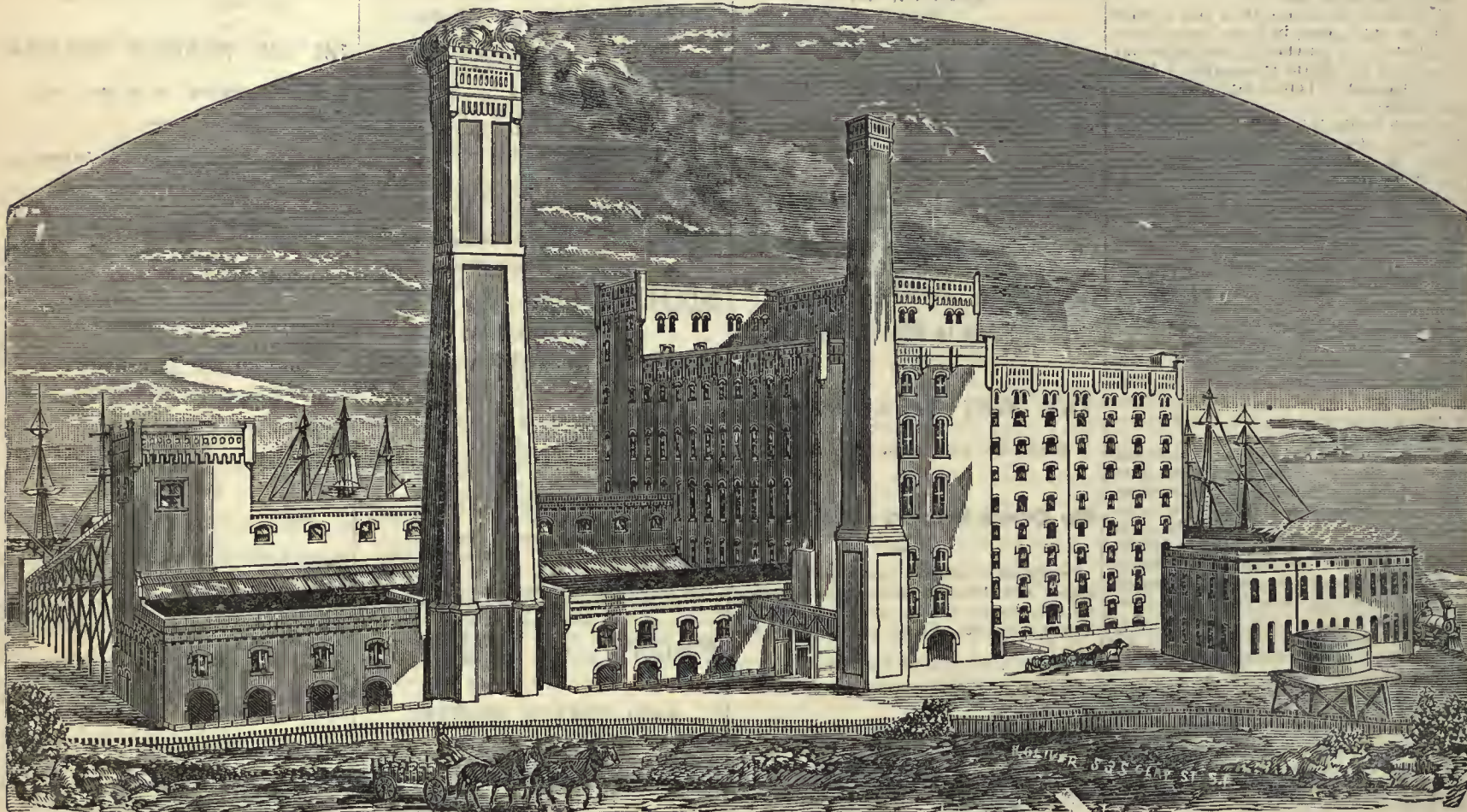
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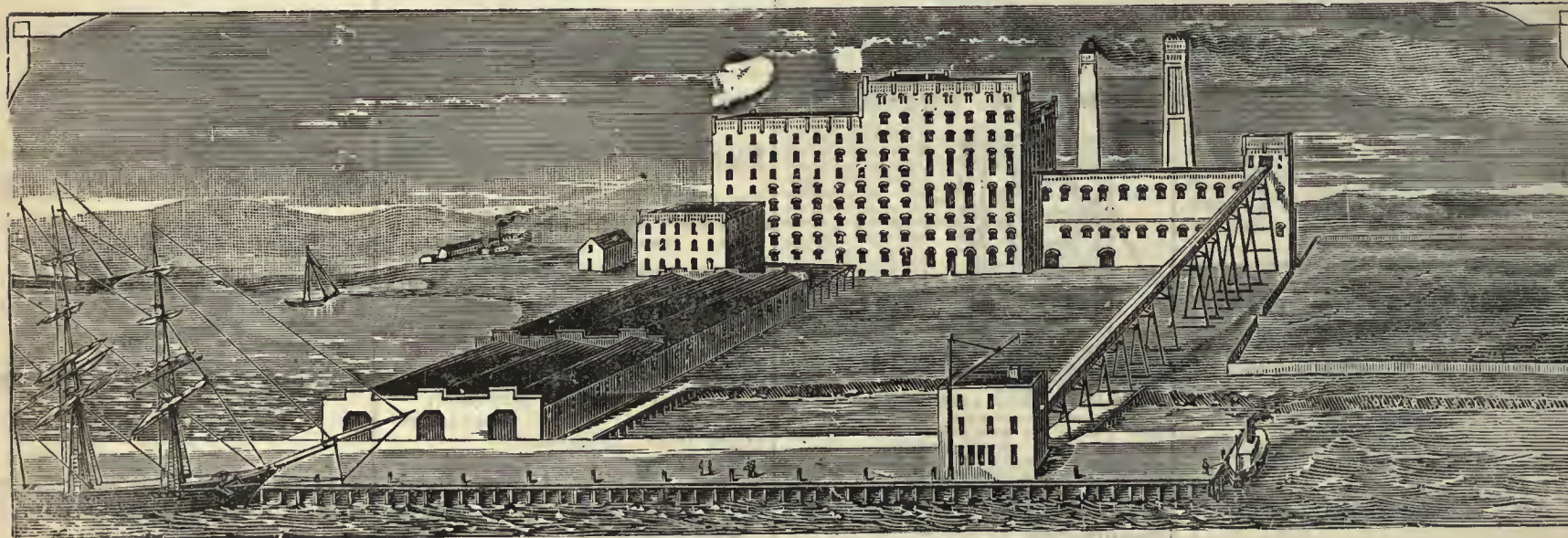
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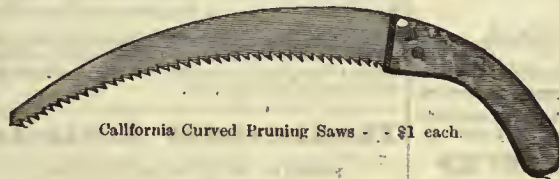
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DAILY CALL, OCT. 18, 1883.
THE WINE PRESS AND THE CELLAR.—A manual for the Wine Maker and the Cellar Man, is the title of a work just published, from the pen of E. H. Rixford. The work, the author says in the preface, is the result of research by himself, chiefly for his own benefit, and in going over the literature of the subject of wine making, he failed to find a work in the English language which is adequate to the needs of the practical wine maker. The book is intended to supply the deficiency. Elaborate statistics of the California wine product are given. Besides the preface, the work contains twenty chapters, each embracing a distinct subject relating to the manufacture of the various wines and putting it up for market; defects and diseases of the liquor; mixing wines; analysis, etc., with forty-two illustrations in all. The processes begin with the gathering of the grape, following each step and the processes attending it, in the manufacture; treating of the various qualities and the causes upon which these various differences depend. The book contains 240 pages, and is thoroughly indexed.

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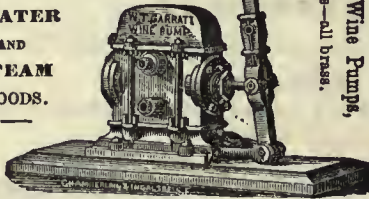
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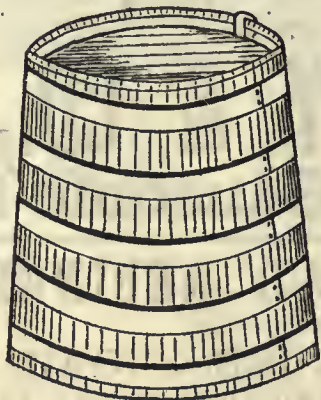
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VOL. XIV, NO. 10.

SAN FRANCISCO, AUGUST 28, 1885.

PRICE 15 CENTS.

THE LOUISVILLE EXPOSITION.

MR. F. POUNDORFF TO REPRESENT CALIFORNIA'S VITICULTURAL INDUSTRY.

Reports of Two Committee Meetings - Subscriptions Solicited from Viticulturists - Glen Ellen to the Front.

Since the last issue of the MERCHANT two meetings of the Louisville Exposition Viticultural Committee have been held in San Francisco. It has been deemed advisable that the interests of the grape growers, wine, brandy and raisin makers of California should be specially represented by a competent gentleman who would act in concert with Mr. C. B. Turrill, of the Southern Pacific Company, who at present has charge of the magnificent exhibit from this State. In making their selection of a representative, the Committee acted with the utmost deliberation and caution. To obtain a gentleman who is competent to distinguish between the niceties of varieties of wines, who is acquainted with the process of fermentation, who understands the requirements and peculiarities incidental to this comparatively new branch of Californian industry, and who can thoroughly explain our future possibilities and capabilities, is by no means an easy task. Yet the Committee has made a most judicious selection, and, in appointing Mr. F. Pohnдорff to fill this most important position, we believe that the unanimous opinion of the viticulturists of California will be that no better selection could have been made. Mr. Pohnдорff will go forward as a representative of the State and of no individual party or clique. He will do his utmost to further our whole interests, whether in grapes, raisins or wines. He is a noted anti-prohibitionist and a strong advocate of the use of wines in preference to whisky. In Louisville he will therefore find a large field in which to commence operations. Mr. Pohnдорff is a gentleman of honor, integrity and reliability. He is enthusiastic in our cause and has been thoroughly educated to viticulture. In endorsing the action of the Committee in selecting Mr. Pohnдорff as the representative of this State, we believe that we simply re-echo the unanimous opinion of the viticulturists of California.

MEETINGS OF THE COMMITTEE.

Wednesday, August 19th.

At the meeting of the Committee held on 19th inst., there were present Hon. W. McPherson Hill of Glen Ellen in the chair, J. H. Drummond of Glen Ellen and I. Landsberger of San Francisco. A telegram was received from Hon. M. M. Estee regretting that he had missed the train at Mountain View and could not be present. Mr. D. T. Feeley excused himself on account of private business and advocated that a competent and energetic man should be sent to Louisville in charge of the California viticultural exhibit.

The Secretary reported that the following ladies and gentlemen would forward exhibits of fresh grapes, raisins or wines: T. C. White, Fresno; H. W. Crabb, Oakville; Hon. W. McPherson Hill, J. Chanvet, M. K. Cady, I. de Turk, Mrs. Kate Warfield, Mrs. Wm. Hood, Colonel Hooper, J. H. Drummond of Sonoma County; Hon. J. A. Filcher of Auburn, Placer County; Geo. A. Cowles, El Cajon, San Diego County.

A letter was read from Mr. J. D. Thompson of San Francisco applying for the position of representative for the California viticultural exhibit, and its consideration was postponed.

A letter was read from Capt. J. Chamon de St. Hubert stating that Mr. D. C. Feeley had promised \$5 as a contribution towards defraying the expenses of a representative, and that he would personally subscribe. The writer stated that the viticulturists of Santa Clara County wished that J. B. J. Portal should be the representative of California and that he had no doubt that gentleman would accept the position if nominated.

Mr. J. H. Drummond as Chairman of the Finance Committee, submitted the following list of subscriptions from Sonoma County, to assist in defraying the expenses of a competent representative to Louisville:

Mrs. K. F. Welfield, Glen Ellen	\$10 00
Hon. W. McPherson Hill, "	10 00
J. L. Watson, "	10 00
Eli T. Sheppard, "	10 00
Guthrie & Macartney, "	10 00
I. de Turk, "	10 00
J. H. Drummond, "	10 00
Christian Weire, "	5 00
F. Kerridge, "	5 00
H. E. Boyes, Sonoma	5 00
Cloverdale Viticultural Club	15 00
Total	\$100 00

Mr. I. Landsberger undertook to obtain \$100 in aid of the same object, but, in the absence of other members of the Committee, definite arrangements for sending a viticultural representative from California were postponed till the next meeting.

Mr. I. Landsberger stated that he thought it would be exceedingly difficult to find a proper person to represent California viticulture, even if sufficient money were collected to defray his expenses. There were very few indeed who understood their business thoroughly and who would be perfectly impartial. The gentleman must not only be acquainted with fermentation but also with the faults of the wines and why they were not up to expectations. He should also know to what extent our wines could compete with other American and European wines. He should be posted on the so-called wines manufactured in the East without any grapes. California could not be represented by a man from the East, but only by a man from our own State who had no special interest in any one district. He believed that Mr. F. Pohnдорff was the only suitable gentleman that could be found. A few years ago Mr. Pohnдорff would gladly have gone for the honor of the State, but now unfortunately he was so situated that he could not afford to do so; he could, however, make arrangements to leave his present work for a time if it was the wish of the Committee that he be entrusted with the representation of the California viticultural exhibit at Louisville. Mr. Landsberger stated that he believed it would be impossible to raise \$200 among the San Francisco wine jobbers towards such an expense because they had no enthusiastic feeling in the matter; each firm had its own traveling agents and they preferred individual representation.

Mr. Drummond stated that their individual representation did not reach the general public.

Mr. Landsberger was of opinion that the interests of the wine makers were separate from those of the jobbers, and, to a certain extent, the two were antagonistic. The interests of Napa and Sonoma counties were antagonistic, each thinking that it was better than the other. (The other members of the Committee dissented from this opinion.) The wine dealers already had their business in hand to a large extent. They said that no wines from any district were any good but all had to be brandied.

Mr. Drummond said that the general idea was to find markets for the extension of California wines to the mutual benefit of all interested.

In reply to a question from Hon. W. McPherson Hill, Mr. Landsberger said he did not think the wine business could be enlarged much. In 1883 the crop was 8,000,000 gallons but when it reached 15,000,000 gallons the consequence was that values depreciated. He believed that the interest was larger and in a better condition five years ago than it is to-day.

Hon. W. McPherson Hill asked what interest in the State was in a better condition than the viticultural industry?

Mr. Landsberger could not say. But five years ago certain prices were asked for grapes or wines and one or two cents less would be accepted. To-day the wine makers could not sell at 12½@15 cents per gallon. In Sonoma County Mr. Finlayson, who had enlarged his cellar, would not buy a single ton of grapes but he would make wine on shares. He might buy 5,000 or 6,000 tons of grapes at \$8 per ton to make into brandy. Mr. Landsberger stated that he could distil in San Francisco at a cost of five cents a gallon and make a profit.

After a further general discussion it appeared to be the unanimous opinion of the gentlemen present, as it had been at the previous meeting, that Mr. F. Pohnдорff was the best qualified and in every way the most competent person to represent the California viticultural industry at the Louisville Exposition. Definite action was deferred until Friday, August 21st, to which date the meeting adjourned.

Friday, August 21st.

At the meeting held on Friday, August 21st, there were present Hon. M. M. Estee, Chairman; I. Landsberger, J. H. Drummond, E. W. Maslin and the Secretary.

Mr. Charles A. Wetmore and Mr. M. H. Turrill were invited to attend the discussions. Hon. M. M. Estee thought that he could collect \$200 from the viticulturists of Napa county for the purpose of sending a gentleman to the Louisville Exposition to represent the viticultural interests of California. He had written to Mr. H. W. McIntyre, a member of the Finance Committee, to urge him to collect subscriptions

for that purpose, and, when in Napa this week, he would specially interest himself in the matter.

After some general discussion it was decided that:

WHEREAS, It is desirable that the California Viticultural Industry should be thoroughly and properly represented, at the Louisville Exposition, in all its branches; therefore be it

Resolved, That the services of Mr. F. Pohndorff be engaged to ensure such thorough and complete representation and to further our interests to the greatest possible extent.

Mr. C. A. Wetmore, on behalf of the State Viticultural Commission, promised to guarantee the expenses of Mr. Pohndorff while in Louisville.

Mr. M. H. Turrill stated what arrangements, he believed, could be effected with the Railroad Company towards attaining the object that the Committee had in view.

Several Sub-Committees were appointed to wait upon different gentlemen for the purpose of obtaining subscriptions.

The Secretary was instructed to write to Mr. Pohndorff and explain to him that it was the unanimous wish of the Committee that he should represent the Viticultural Industry of California at the Louisville Exposition, and the terms that they were prepared to offer.

Before adjourning till Monday, 31st inst., the Secretary was further instructed to prepare and issue the following

CIRCULAR.

The Committee, appointed by the State Viticultural Commission, to obtain and forward to the Louisville Exposition samples of grapes, raisins, wines or brandies representative of the viticultural industry of California, have decided that:

WHEREAS, It is desirable that the California Viticultural Industry should be thoroughly and properly represented, at the Louisville Exposition, in all its branches; therefore be it

Resolved, That the services of Mr. F. Pohndorff be engaged to ensure such thorough and complete representation and to further our interests to the greatest possible extent.

In order to secure the services of Mr. Pohndorff it is necessary that the viticulturists of California should contribute towards the payment of his expenses.

I am therefore instructed to ask you to what amount you will assist in this respect and if you will kindly forward your subscription to any member of the Finance Committee mentioned below, to Hon. M. M. Estee, to E. W. Maslin, Sacramento; or to the Secretary:

Finance Committee—J. H. Drummond of Glen Ellen, Chairman; I. Landsberger of San Francisco; H. W. McIntyre of Rutherford, Napa County; F. T. Eisen of Fresno County; Captain J. Chamon de St. Hubert of Santa Clara County.

Mr. J. H. Drummond of Glen Ellen has collected \$100 from his neighbors.

By order of the main Committee.

I am Sir, your most obedient servant,
CHARLES R. BUCKLAND, Secretary,
323 Front Street, S. F.
August 22, 1885.

The Committee, appointed by the State Viticultural Commission, for the purpose of securing an exhibit of viticultural products representative of California, has instructed me to send you the following particulars and to solicit your earnest co-operation.

The following samples are considered desirable, by the Committee, to be the main features of the exhibit, which should be, in every possible particular, typical of the viticultural industry of this State.

First—Collections of wines, brandies, raisins and fresh grapes.

Second—Photographs of vineyard scenes, wine cellars, grapes; charts, pictures or maps illustrative of the extent and diversity of the industry.

Third—Samples of soils from different localities, vines of different ages showing the branch and root growth; pressed specimens of the foliage; specimens preserved in solution.

Fourth—Products made from the grape, such as grape syrup, cream of tartar, etc.

Fifth—A register of varieties of vines for sale, with the prices and peculiarities of each concisely stated; also prices of wines for sale and by whom.

The Committee in charge of this exhibit are Hon. M. M. Estee of Napa, Chairman; I. Landsberger of San Francisco, Captain J. Chamon de St. Hubert and D. C. Feeley of Santa Clara Co., E. W. Maslin, W. B. West and H. P. Livermore of Sacramento Co., F. T. Eisen of Fresno, J. H. Drummond and Hon. W. McPherson Hill of Sonoma Co.

In order that efficient work may be done in Southern California, the following gentlemen have been requested to co-operate with the main committee, with respect to samples of wines and brandies, viz: Hon. R. F. Del Valle, Los Angeles; Hon. J. F. Crank, Pasadena; and R. J. Northam, Anaheim.

The following named gentlemen have been requested to assist the Committee in securing proper samples of raisins, illustrative of their different sections, viz: Robert McPherson, Orange, Los Angeles Co.; Col. L. M. Holt, Riverside, San Bernardino Co.; Geo. A. Cowles, El Cajon, San Diego Co.; T. C. White, Fresno; D. A. Jackson, Woodland, Yolo Co.; Hon. J. A. Filcher, Auburn, (for the foothills.)

The following extracts, from a letter addressed by Mr. C. B. Turrill to the editor of the S. F. MERCHANT, serve to show more particularly the nature of the exhibits desired and should be adhered to as closely as possible:

ARRANGEMENT BY COUNTIES.

"A careful study of the subject induces me to adhere to my previous plan of arranging the exhibits by counties, and then grouping these geographically. Thus the visitor forms a pretty correct idea of the resources and advantages of each section. And when he passes from one county collection to another and sees the same products displayed in so many of these geographical divisions, he is amazed at the fact that so many things are produced nearly all over the State."

A GENERAL DISPLAY.

"Besides this general arrangement, I want to have sufficient of the exhibits to make general class displays. For instance, I want to get up a general viticultural and vinicultural display, which will clearly show the extent and diversity of this branch of our State's productive possibilities. I shall be glad to have all the charts, pictures, maps, etc., that I can get, which will throw light on these matters. Photographs of vineyard scenes, wine cellars, grapes, etc., are the interesting pictorial part of such a display. There should also be samples of soils from different vineyards. Vines of different ages, showing the branch

and root growth. These should illustrate the growth of different varieties as well as the fertility of the soil. There should be pressed specimens of the foliage. The vines will have to be dried, and the leaves will have to be removed, they will simply show the canes and the roots. The foliage must be pressed. Then we need specimens of the different varieties preserved in solution. I have a large collection of such now. These are in a preservative solution of my own, and keep admirably, retaining bloom as well as color, form and size. I put one bunch in a jar; after the solution has permeated the berries there is no fear but what all will keep well."

WINES IN BOTTLES.

"It is important that I should have in this special display as full an assortment as possible of wines and brandies of different varieties, vintages, and from as great a number of localities as they can be procured. Two or three bottles of each would be ample for this. I would urge that for this part of the display, if no other, the bottles should be clear, so as to show the color of the product contained. I think it would be well to have these bottles accompanied by concise statements of the grapes from which made and also by an analysis. There are other points which will suggest themselves. It is important that all these vine products be put up in attractive shape. One large display of wines that came for the New Orleans Exposition would have made a better appearance had the bottles been better. Some apparently were ordinary beer bottles, and the height was not the same. This was unfortunate, and was the cause of much adverse criticism. Wine dealers urge me to impress upon our makers the importance of filling the bottles fuller, and making the capsule come down just below the top of the wine. Remember that our wines will be criticised. It is well to avoid grounds of complaint when possible."

CAPPING AND LABELING.

"Care should be taken in capping, and especially in labeling. In the collection above referred to some of the bottles had been put into the sheaths before the labels had dried, and they were rumped up past recovery. Too much care and attention cannot be paid to all these little details. There are thousands to notice them, and much depends upon attractiveness. Then there is another point; there is a constantly present tendency to compare our wines with the French, not alone in quality but in the style of bottling, labeling, etc. We must put our best foot forward in all particulars. Many here have objected that in our wines the bottles are not full, that is to say, there is anywhere from half an inch to nearly two inches between the top of the wine and the bottom of the cork. It is important that I be supplied with a sufficient number of duplicate labels for all bottles, in order to replace the labels in the event of their becoming soiled or damaged."

THE RAISIN EXHIBIT.

"I have not mentioned the raisin industry. This is very important. And all that has been said regarding neatness and care is applicable here. People are astonished at the beauty and quality of our raisins. I let them test them when I can. The taste thus cultivated for our products creates a local demand that must be supplied. Every one speaks of the superiority of our California products. This sampling creates the desire to purchase, and local dealers come for the addresses of those to

whom they can write for goods and prices."

EACH MAKER'S MITE.

"A series of exhibitions is contemplated and the Company asks the earnest, active co-operation of all. Let no one hesitate because he can contribute but little, for his mite will help to make the mass, and in that mass his individuality will not be lost. Each man gets full credit for what he does, and all have the honor of doing something for California."

TASTING AND SAMPLING.

"There should be a reasonable supply of important wines that may be tasted by those who will be specially interested in our viticulture. This can be so conducted as to do great good. It is not necessary nor advisable to treat every man that comes along, but a little experience demonstrates who are the parties who will be the ones to assist in making a market for our wines."

NO TIME TO LOSE.

Exhibits should be properly placed at Louisville by August 15th, but it is probable that the collection may be added to, subsequent to that date. It will thus be seen that prompt action is necessary on the part of all our viticulturists.

HOW TO FORWARD EXHIBITS.

All that need be done by exhibitors, after packing, is to deliver their packages at the nearest railway station with special tags attached to them. These tags can be obtained from any member of the Central or Local Committees, or from the Secretary. They are addressed to T. H. Goodman, care of J. T. Carothers, Station Baggage Master, San Francisco, and state that the package is an exhibit for the Louisville Exposition. Mr. Carothers has received instructions to forward all packages, so addressed, to their destination without delay.

PARTICULARS OF THE EXHIBITS.

As it is deemed desirable that a record of all the California exhibits should be kept at the office of the State Commission, exhibitors are requested to forward to the Secretary full particulars of the number and nature of their exhibits in accordance with the above instructions, with detailed accounts of any special peculiarities pertaining thereto. All exhibits forwarded through this Committee will be merely on exhibition as a general State display and not for competition. They will be forwarded free of charge.

By order of the Committee,
CHARLES R. BUCKLAND, Secretary.
323 Front Street,
San Francisco, July 28, 1885.

Those wine makers and merchants, who desire to extend their trade connections through the medium of the Louisville Exposition, would do well to insert their cards in the MERCHANT, as special arrangements have been made for a large circulation there during the continuance of the Exposition.

W. E. CHAMBERLAIN, JR. T. A. ROBINSON



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OUR HONOLULU LETTER.

THE HAWAIIAN COMMERCIAL AND SUGAR COMPANY.

Particulars of Its Extensive Operations and Future Prospects—A Favorable Outlook for Crops.

[CORRESPONDENCE OF THE S. F. MERCHANT.]

The present outlook for the future sugar crops on the Islands is a most favorable one. There has been a little damage done on some plantations through the late storm that swept over the Islands, but the loss through destruction of property falls mainly upon the Government and not upon individual planters. The late rains, which are somewhat unseasonable, have enabled us to do all the planting for 1887 without being compelled to rely upon irrigation and fluming. The appearance of the growing crops which will be cut in a few months is decidedly favorable, and shows a good growth with every appearance of good saccharine returns both through the mill and agents on the Coast. In commercial and general business circles there is a decidedly marked improvement. The old credit system is rapidly being reduced to a cash basis; expenses are being cut and there is a far more healthy tone than there was a year ago.

But little is known in California of the locality or extent of the property belonging to the Hawaiian Commercial and Sugar Company, in which so many San Francisco business men are directly interested, so I propose giving you a few brief particulars of what will be the most gigantic enterprise in the Hawaiian Kingdom. The plantation proper is situated in the neighborhood of Kahului on the island of Maui, and was in fact the making of that little town. For miles one passes through fields of cane before reaching the plantation with its four mills which are probably more complete in their machinery, fittings and general details than any other sugar mills in the world. To attain such a state of perfection has necessarily involved a large original outlay of capital. That such expenditure and investment was a judicious one will, I believe, be proved within a year or two. It is folly for anyone to imagine that, when inaugurating a big enterprise of this character, he can receive any large immediate returns.

The Company's stock consists of 100,000 shares of the value of \$100 each, making a total of \$10,000,000 on which \$23 per share has been paid up, or nearly one-fourth of the whole amount. The Company controls nearly 50,000 acres of land of which some 30,000 acres are freehold, the remainder being held under lease from the Government. It can easily be imagined that the cultivation of such a tract of country, and the manufacture of the sugar grown thereon, will require an enormous body of laborers. They necessarily require stores, provisions and clothing, and the imports from San Francisco and other ports on the Pacific Coast to Kahului alone aggregate the very respectable value of \$80,000 per annum. The whole working of the plantation has been most thoroughly systematized under the careful and economical management of Mr. George C. Williams. The yield of last season was 6,700 tons of sugar, and at the present time there are over 10,000 acres under cultivation, some of which will not produce a crop for a couple of

years. It is in this connection, that those who are unacquainted with the practical working of a plantation make such a huge mistake. The expenses incurred during last year, for instance, may seem unusually heavy in comparison with the receipts for that year. But this is not a fair basis of calculation because the expenses of last year cover more than two-thirds of the outlay necessary to ensure returns for the two following years. One year's expenses almost cover the crops of three years and if further planting operations were to be discontinued to-day it would take but a trifling sum, comparatively speaking, to market the sugar crops for the two succeeding years. This is a leading point which is not generally understood, but which plays an important factor in establishing the financial prosperity of sugar plantation property.

There are over 1,500 acres of land under cultivation for a new crop for this season in addition to the ratoons which will make the total cut close upon 2,500 acres for the coming season. There are also 2,500 acres under cultivation for the season of 1887. This means about ten thousand acres in all under actual cultivation. The Company has moreover ten thousand acres of new land at the foothills, the soil of which is of the richest character. A part of this has been planted and yielded six tons to the acre and four tons for ratoons. It is hardly fair to figure upon such a return for the whole area, but, estimating at five or even four tons the showing is a good one. The coming crop is placed, at a low estimate, at from 11,000 to 12,000 tons, and it is anticipated that the two successive crops will certainly aggregate the same total. Taking the price at \$100 to the ton this gives a return of from \$1,100,000 to \$1,200,000 for the year. The expenses, including interest, do not amount to \$60,000 a month which leaves nearly \$400,000 profit of which \$100,000 is utilized for payment of indebtedness, leaving about \$300,000 for disbursement in dividends. The returns for succeeding years should be even still larger on account of the increased acreage of cane coming into bearing which results from the necessary expenditures, involved one, two and three years in advance, for cane planted, the cane under cultivation and the cane that is taken off. The irrigation system of the Company, derived from the Waihee river and the Haiku ditch, is now in thorough working order. Future expenses will be reduced to a minimum, through the Japanese labor system and efficient and judicious management. The heavy expenses necessary in establishing such a gigantic enterprise have been incurred. The consumption of sugar is increasing. The beet crop of this year shows a large shortage. The sorghum seed planted this year has proved to be a failure. Taking all these things into consideration, and making due allowance for future contingencies that it may be impossible to foresee, I am inclined to believe that the stockholders of the Hawaiian Commercial and Sugar Company have one of the best and safest investments ever known in San Francisco. The time will shortly come when they will ascertain without a doubt that every idea, calculation and estimate of the originators of the Company have been fully realized.

ALOHA NUI.

Honolulu, August 13, 1885.

The last crop of Australian grapes realized from \$30 to \$35 per ton with higher prices for choice varieties.

Viticultural Meeting at St. Helena.

A largely attended meeting of the grape growers of St. Helena was held on 15th inst., the special purpose being to listen to an address on the subject of practical questions concerning fermentation, by the Chief Executive Viticultural Officer, and discussions in connection therewith. Samples of new wines from early grapes fermented this season by different processes at the office of the State Commission were exhibited, in order to demonstrate the varying results obtained by following different methods. A sample of Early Black July wine recently fermented, which went through in three days with the aid of ferment germs added in excess, was compared with two other samples, one of which had received no aid and the other of which had been slightly aided. The color of those which had been aided was superior to the one which had fermented without aid, and both of those that were aided were perfectly clear while the other was still cloudy as is usual with new wine, giving off continually an amount of carbonic acid gas. A sample of Zinfandel wine which had been fermented last year with a small addition of sulphate of lime was exhibited to show the effect upon its color and brightness.

A Report from the State Analyst.

The State Analyst has reported to the Viticultural Commission as follows:

Mr. C. A. Wetmore: The quantitative analyses of the three calcined plasters gives the quantity of carbonate of lime contained in one hundred pounds as follows:

	Pounds.
Newburg Eastern Superfine Plaster.....	8.728
Wortherpoon Common Eastern Plaster.....	9.730
California Plaster	11.717

The uncalcined California Plaster contains 12.370 pounds of moisture and 8.912 pounds carbonate of lime.

Besides, the qualitative analysis of these four plasters gives a greater quantity of iron in the two California plasters than in the others.

The sample No. 3—coloring matter—is a mixture whose base is a derivative of Aniline, but is free from arsenic.

The sample of coloring matter was one sent to an importing house for sale to wine makers and was submitted to the Commission for analysis. Since the report on it has been made known, the merchant, who received it, says he would not think of offering it for sale.

The latest advices of the grape crop in Santa Clara Valley are that, in five or six vineyards, not more than one-third of a ton to the acre can be expected.

Hawaiian Viticulture.

EDITOR S. F. MERCHANT:—Will you please describe in the MERCHANT the Chaintre system of pruning? I have a small vineyard of grape vines, and have taken one medal for the best Muscatel grapes shown at our Agricultural Society's meeting. I have been a subscriber for the MERCHANT, and now am, through Messrs. J. M. Oat, Jr. & Co., news dealers here, and say the information received through the MERCHANT has richly paid me—even far more than the price of the paper.

Yours respectfully, WILLIAM BANCOCK.
Honolulu, August 15, 1885.

To describe fully the Chaintre system of pruning would occupy at least one issue of the MERCHANT, so that we are afraid friend Babcock's request cannot be complied with. However we send him the last Annual Report of the Chief Executive Viticultural Officer, in which the Chaintre system of pruning is far more elaborately explained than we could attempt.—[Ed. MERCHANT.]

Governo of Press Wine.

Sig. Francesco Leveratto of Varzi, Pavia, wrote shortly after last vintage the following lines to Professor Ottair, who published them in his wine journal:

"My pomace I press immediately and put the press wine in small casks (barrels), inclining them towards the back part on the scantlings so as to allow the deposit to settle well. The precipitation being generally accomplished in 36 hours, I rack the liquid in other clean casks. Later on I put the whole in a large tank, filling three-fourths of its capacity. Then for each 26 1/2 gallons I have 24 pounds of the best grapes, preserved on mats, squeezed and put them into the tank of press wine. After twenty days I rack and have then a press wine as good as that of the first juice."

Exchange of Courtesies.

To Professor Dr. L. Roesler, Director of the Imperial Royal chemical, physiological experiment station for grape and fruit culture at Klosterneuburg, near Vienna, we are indebted for reports issued by the Imperial and Royal Station, of which further notice will be made in future issues. Professor Roesler desires to receive the MERCHANT in exchange for his reports, a request that we have the greatest pleasure in complying with.

THE CUPERTINO VITICULTURAL SOCIETY
Meets on the evening of the third Thursday of each month at Mr. Montgomery's.

J. C. MERTHEW President
J. D. WILLIAMS Vice-President
R. C. STILLER Secretary
Please address all communications to R. C. STILLER, Gubersville, Santa Clara Co., Cal.

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RAISIN MAKING.

A Description of the Process at Malaga.

Muscat Gordo Blanco the Grape Grow.—

Packing the Raisins in Layers—Rate of Wages—Drying Grounds.

[By Thomas Hardy, Bankside Vineyards, Adelaide.]

We were recommended by Mr. Bevan to visit the "hacienda," or farms of Senor Oroasco, who is the Mexican Consul in Malaga, as the best place to see the drying and packing of the celebrated Malaga bloom raisins, so we took a cab to San Rosalio, which is the name of the farm, or rather country house and grounds. It was only a mile or two out of the city, and we could easily have walked, but the cabmen and waiters represented that it was eight or nine miles, just to plunder us in the fare asked. The road is partially metalled with a very soft stone and fearfully cut up and several inches deep in dust. The trees and shrubs alongside the road are covered with white dust, as bad as ever we saw in Australia. Fortunately there was no wind, or we should have been pretty well smothered. The only bright things seen are the patches of sugar-cane, which are irrigated and look beautifully green and luxuriant. We took an interpreter with us from the hotel. He was a Swiss and professed to know all the European languages, but did not know any, and we could have done better without him, as he was constantly giving us his own opinions instead of putting the questions we wanted answered. We found the work of sorting and packing the raisins going on here and fifty or sixty men employed (no women or children.) The grapes were all gathered by the 18th September, or thirteen days since, and are nearly dried into raisins. The vineyard is of considerable extent, the land quite flat, and the soil apparently a dull reddish alluvial loam, with abundance of water-worn stones. We asked if it had been trenched, and were told that it had to the depth of the knees. We saw traces of a red marly clay here and there as though it had been brought to the surface by trenching. The vines in the oldest part of the vineyard are planted six feet apart each way, and the new vineyard, which however is eighteen years old, is planted fifteen feet apart between the rows, and only three feet between each vine in the rows. The vines are grown very low and the lower branches touch the ground; a hollow is scooped out around each vine for the bunches of grapes to hang in. They are pruned very close, only one or two buds on each shoot, and not generally more than five or six shoots on a vine, and none are staked. We found a few grapes that had been missed in gathering; they were not larger than we grow at Bankside, but more solid; they are all the Muscat Gordo Blanco, the same as we have, and no other grape is used for raisins as far as we could learn. In planting a vineyard cuttings from two or three feet long are used and laid horizontally in a trench about nine inches deep, and the top brought up and a mound of earth drawn up around it to keep it upright instead of a stake, for two or three years; saw many layers made to fill up vacant spaces. We could not find that the vines are disbudded during the growing season, and they did

not look as if it had been done to any extent. The vineyard is all worked by hand labor, and was very clean and free from weeds. The drying grounds are of two kinds. The first are built up with brick walls and filled in with earth; they are generally from 20 to 25 feet long and 14 or 15 feet wide, and divided into spaces 6 or 7 feet wide with bricks set on end and standing four inches above the floor; they slope from close to the ground at the bottom at an angle of nearly 45 degrees, and face the south. The floor is covered with several inches of clean small gravel, on which the grapes are laid in small bunches, and very regular. We saw one which was covered with grapes on the 18th September; the grapes were nearly dried and had not been turned, as we could perceive by the stalks of the bunches; they were nearly as dry on the under side as on the top from the heat of the gravel. When they are sufficiently dried, covers made of two 9x1 inch deal boards fastened together and overlapping like weather-boards, are laid over them until they can be gathered up. These covers are put on at night during the time of the drying. When they are gathered up the men kneel on these boards and, beginning at the bottom, sort them into three grades beside the loose berries, and lay them on boards three or four inches broad. They are then carried into the house (which was not occupied), and every room and the staircase, on and under the headsteads, and every available place was full of these boards with raisins, piled one on the other. We were given to understand that they remained in this way a month before being packed, but as they were busy packing we think they only remain until they are ready to pack them. The other kind of drying-floor is flat, or only slightly raised in the center. They are provided with a ridge-pole and cloths to cover them at night or when required. We were told that the grapes do not dry so soon by eight days as on the sloping floors opposite the sun. Packing and sorting was going on under sheds of bamboo, and in a large room adjoining the house the men all sat at their work and most of them were smoking their cigarettes. Each man has a small pair of scissors, with which he cuts out all defective berries, pieces of stalk, etc. Some pack the layers for the bottom and others for the top of the boxes. Each layer is laid on paper spread on a box cover and made to a certain weight. The men that prepare the top layer are very clever at it; they turn and twist the raisins, to make them come in rows, and fill up with single raisins pulled out to flatten and make them look large. After they are laid on the boxes they are set one on another in the same way as we do in packing grapes for export, and that is all the pressing they get so far as we could see. We did not see any kind of press about. The boxes are only lightly nailed, as they have all to be repacked in clean paper in Malaga before they are shipped. The men are paid at different rates according to the work; the lowest at six reales, or 1s 3d per day, and the highest at nine reales and a dinner consisting of soup and brown bread. They are fearfully slow at their work and it would not pay in Australia to go to the trouble they do in sorting and packing. We were glad to have so good an opportunity of seeing the whole process, and also that we got in time to see grapes still on the drying-floors. I have no doubt that the gravel floors are the best possible thing to have, as they retain the heat and allow

a current of air to pass beneath the grapes. We shall have to find out the best localities for growing fine fleshy fruit, so as to produce large raisins, and also where they will ripen early, so as to get the full benefit of the sun in drying. On the wharfs we saw men and women under rough sheds of bamboo packing lemons for shipment. They are quite green when packed and each lemon is wrapped in a piece of colored paper. All sorts of cooking is to be seen going on in the streets and swarms of beggars at every step—some of them leathome-looking from disease, loss of limbs, etc.

THE RAISIN CROP.

As the season progresses, advices to the MERCHANT indicate a shortage in the raisin crop, which proves the fallacy of the previous statements and estimates amounting to 400,000 boxes, made by local commission houses whose sole interest was to depreciate values when purchasing. The recent hot weather has scorched the raisin grapes in Southern Counties to such an extent as will reduce the pack by one-tenth. Messrs. Wm. T. Coleman & Co.'s estimate of the pack is 250,000 boxes, but it will probably be found eventually that the figures given by the MERCHANT on July 17th, which aggregated a total pack of 210,000 boxes, will prove to have been the most reliable. The raisin makers have favorable prospects for this season in consequence of increased consumption, increased popularity of the raisin pack from this State and the danger arising from probable contamination of cholera through the importation of raisins from the diseased districts of Malaga.

THE FIRST RAISINS.

The first raisins of the pack of 1885 were from the Raisina Vineyard of Mr. T. C. White of Fresno. Five tons of the fruit were dried and packed by August 12th, a month earlier than last year. Though not of the finest quality they were well dried and of good appearance and flavor. Mr. White generally manages to be the first in the San Francisco market with his raisin crop and evidently believes that "the early bird gets the worm." These raisins were consigned to Messrs. Wm. T. Coleman & Co. A few sample boxes from other sources were sent to San Francisco, during the week ending August 22nd, but the makers had no large lots to offer. The attempt, in certain quarters, to make an early raisin boom proved an ignominious failure.

A careful perusal of the article on the mode of manufacture of raisins in the Malaga district which is published by the MERCHANT to-day, should convince everybody of the danger of cholera that will arise from consumption of the imported article.

The only raisins that were shipped East, by rail, in June were 100 pounds from Stockton. This is tolerable proof of a clean market for the coming crop.

WINE FILTERS.

One of the newest inventions or rather improvements in cellar appliances is a filter useful for all liquids, water included, of the Piefke systems, in which specially prepared cellulose, in galvanized metal frames is the filtering medium. This is a Berlin apparatus. Another equally simple and ingenious system is of Italian invention, the filter of Gaetano Stabile, which has a series of frames on which filtering-cloth is spread. The frames are of galvanized iron. Both systems are arranged in a way to shelter the wine from the influence of air.

Bordeaux Wine—Reasons for Its Reputation.

The Italian paper *Rivista di Viticultura di Enologia* published notes answering the question: What reasons are there for the deserved great renown of the wines of Bordeaux? The reasons are enumerated in the notes and may be summed up as being: The extremely favorable climate and the proportionate moisture—rains in opportune seasons. The mechanical and chemical composition of special soils, not found easily in equal proportioning or not in large areas elsewhere. The selection of few but accurately adapted varieties of highest merits, and which for a long period have proved to be the best in the locations. The clever and careful treatment of these vines and pruning methods found by long experience to be the proper ones. The minutest care bestowed on the vineyards; constant and reasonable work in the same. The entire dedication of the people's attention and care to the vine, not mixed up with other cultivations, and consequent perfection in that special branch elevated to the highest degree. The division of viticulture from oenology. The wealth of the country, capital being abundant and interest low, thus favoring the industry of which the importance is familiar, and the safety of the same general persuasion and confidence. The more care and expense bestowed on the vineyard, the more remunerative its crop. Grape growers being well off viticultural instruction is not regulated. The high price paid for good wines of Bordeaux. The certainty of the sale of the product and the better in quality the higher the price paid for it. Facilities in transport and cheap rates of the railways, the accessibility of ports for export and a well-organized wine commerce. There are many other causes, and as said, besides the natural and social causes, there is that of scrupulosity in all work of the wine press and the cellar. It is comparatively easy to handle a vineyard stocked with varieties known for centuries—and to handle the wine so thoroughly known and which to produce, develop and preserve to perfection is a matter of pride of every one in the Bordeaux district. While some of the conditions mentioned may be present in one or the other locality of California, how far are we yet from reaching others? We shall for generations yet have to search for ultimate and definitive adoption of the best adapted varieties. We shall have to strive for perfection in our product, but above all we shall have to persuade the Nation that our wines deserve a place at the table of every family.

F. PDFF.

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NEW CROP
CALIFORNIA RAISINS.

We beg to notify the trade of our having secured the control of the bulk of Southern California Raisins comprising the pack of--

MISS MINNIE F. AUSTIN, of Fresno,
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 COL. WM. FORSYTH. "
 JOHN W. PEW, "
 ROBERT BARTON, "
 J. T. GOODMAN, "
 CURTIS PACKING CO., "

—ALSO—

RIVERSIDE FRUIT CO., OF RIVERSIDE,

— AND —

MCPHERSON BROS. OF ORANGE, CAL.

These constitute the principal packers of Southern California and will probably put up 90 per cent. of this year's crop of Southern California Raisins. We have this year established a standard grade, which will be strictly maintained, and all goods not coming up to the highest standard will be packed as seconds.

Full weights will be given, goods will be packed in the highest style, with attractive lithograph labels, and every effort will be made to produce an article creditable to this State.

Last year it was generally recognized by the trade that our brands of Raisins were superior to any in the market. It will be our aim this year to create even a wider difference between competing brands and those mentioned above.

WM. T. COLEMAN & CO.

SOLE AGENTS.



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FRIDAY.....AUGUST 28, 1885

THIS YEAR'S VINTAGE.

As the season for winemaking progresses the prognostications of the MERCHANT as to a short crop of grapes, and in some parts an almost entire failure of the crop, become more and more apparent. A few weeks ago we gave our estimate of this year's vintage at from 10,000,000 to 12,500,000 gallons. Our advices and information from all parts of the State do more than confirm our opinion as against that of interested parties who placed this year's wine crop at 20,000,000 gallons. The best yields will be from the vineyards of Fresno and Los Angeles counties. The northern counties will be lamentably deficient, varying in parts from one-third to one-fourth, one-sixth and even less of a crop. Napa, Sonoma and Santa Clara counties have been the chief sufferers. Where they were not affected by late frosts they are now showing unmistakable signs of irregularity in ripening, a few berries on each bunch being full matured while the remainder are perfectly green and only partially developed. If the fearful mistake be not made of crushing the unripe fruit with the ripe, and thus ruining the quality of the wine, then the actual amount of wine made in California this year will not reach 10,000,000 gallons.

WORK OF THE STATE ANALYST.

Work by the State Analyst in connection with that of the State Viticultural Commission, as provided for by the Act of the last Legislature, is now in active progress. Professor Rising has selected for his assistant Mr. Louis Grandjean, an accomplished chemist educated at Geneva, who is familiar with wine production and matters pertaining thereto, and who will devote his time exclusively to viticultural matters. The State Commission has guaranteed to Professor Rising, temporarily, the payment of the expenses which are incurred. His assistant will serve for the present in this connection for a reduced compensation and the State Commission will add to the amount enough to secure his services, by engaging him to combine with his analytical work certain labors in connection with the experimental fermentations which are to be conducted at Mr. Crabb's cellar. This arrangement, it is thought, will add efficiency also to the future work of the State Analyst by giving his assistant an opportunity to fully investigate during vintage, in the wine cellar, the various conditions under which wines are practically made.

CALIFORNIA WINE SHIPMENTS.

Complete Half-Yearly Returns By Sea and Rail—Eight Months' Sea Shipments.

THE MERCHANT gives to-day the shipments of California wines by sea for the month of August. They aggregate 97,377 gallons of the value of \$57,225. An analysis of the figures shows that the Panama route shipments are 7,000 gallons less than the average of similar shipments for the previous seven months of this year and almost 14,500 gallons less than the average for the same period in 1884. The business done by other routes shows a gain of 8,600 gallons for the month as compared with the average for the previous months of this year and a gain of 7,250 gallons compared with the 1884 shipments for a similar period. The increase in the miscellaneous routes is entirely attributable to the shipments made to New York by Messrs. Wm. T. Coleman & Co. in the ship Undaunted. The Hawaiian Islands come next in order of importance. The figures stand thus:

BY SEA, AUGUST 1885

To—	Gallons.	Value.
New York.....	12,853	\$11,685
Hawaiian Islands.....	1,039	1,052
Liverpool.....	980	494
Victoria, B. C.....	834	775
Japan.....	241	159
Mexico.....	105	114
China.....	50	51
	16,102	\$14,330
By Panama line of steamers..	81,275	\$42,895
Total.....	97,377	\$57,225

A comparison of the totals for the first eight months of 1884 and 1885 respectively shows a decrease in shipments of rather more than 100,000 gallons for this year by the Panama line of steamers, and over 2,000 gallons in the miscellaneous sea shipments. The figures stand thus:

Year.	Panama Line, Gallons.	Other Routes, Gallons.
1884.....	801,636	70,664
1885.....	699,392	68,246
Decrease, 1885.....	102,334	2,418

A HALF-YEAR'S TRADE.

The receipt of the overland shipments by rail enables us to complete our statistics of the half-yearly wine export trade by all routes. The figures are interesting and show, notwithstanding the large decrease in shipments by the Panama line of steamers, which exceeded 80,000 gallons in the first half of this year, that there is a net gain for the period of nearly 350,000 gallons attributable entirely to the increase in our overland export trade. The detailed figures for June are as follows:

BY RAIL—JUNE.

FROM.	Northern Route.	Southern Route.	Total No. of gallons.
San Francisco.....	17,200	139,206	156,406
Los Angeles.....	9,049	19,768	28,817
Sacramento.....	7,539	12,456	19,995
Stockton.....	2,663	2,553	5,216
San Jose.....	591	2,554	3,145
Marysville.....	58	266	324
Oakland.....	250	.....	250
Totals.....	37,350	176,803	214,153

The June overland shipments for this year were exceeded in quantity by those of the three previous months, the total exports by rail for the first half of this year standing thus:

Month—	Gallons.
January.....	137,543
February.....	269,398
March.....	431,617
April.....	305,817
May.....	283,346
June.....	214,153
Total.....	1,584,869
Same period in 1884.....	1,145,274
Increase in 1885.....	439,595

To complete the half-year's total we must add the sea shipments for the same period which considerably reduce the figures. The

export trade for the half-year, however, exceeds that of the first six months of 1884 by 347,386 gallons, which, at the same rate of increase for the present six months will give a net gain of 700,000 gallons, in California wine exports, for the year 1885.

SIX MONTHS TO JUNE 30.

Year.	By Rail.	By Sea.	Totals.
1885.....	1,584,869	597,127	2,181,996
1884.....	1,145,274	689,336	1,834,610
Total increase during the six months } ending June 30, 1885.....			347,386

DULL TIMES.

San Francisco has been redolent with the dull times cry for the last couple of years at least. We propose to briefly analyze this subject and point out what grounds there may or may not be for such continued assertions. Taking our import and export trade for the present year we find an increase in value of some \$5,000,000 as compared with the same period in 1884. Now the handling of this amount of extra merchandise in San Francisco is not done for nothing; it means a decided increase of general business in some directions. Further the values do not represent the total increased volume of our transactions because prices are lower to-day than they were a year ago. Financially and commercially San Francisco stands among the first cities in the Union. Our business failures are comparatively trifling and we hear of no extensive bank failures, or speculations which are conducive of an abundant crop of failures. Our streets are filled with well dressed people; we see but little poverty; our places of amusement are constantly filled both by day and by night. If dull times really existed surely some signs of it would be noted in this respect. A circus recently drew 5,000 people every night, besides its mid-day performances, for more than a week. Patti's last opera season in this city was by no means a financial failure. If everybody be so "hard up" and times are so dull, whence comes the money to provide for these amusements and recreations? There is no diminution in the Sunday excursion traffic or in attendance at the pugilistic arena, and all these little incidents involve an expenditure of cash; there is no credit given.

The real truth is that it is human nature to growl. If a man makes \$50 a day he growls because he may have lost an opportunity of increasing his profits to \$75. One man talking to his business neighbor will state that times are dull and continue talking in such a gloomy strain that his friend becomes firmly convinced of the fact and repeats the story to number three. So the cry goes round and it loses nothing in the telling, till, by the time the tenth person has repeated it one would imagine that the whole country, and every person in it, was in a state of utter and hopeless bankruptcy. Yet on that same evening you will probably see these very people spending money lavishly at some popular place of amusement. Comparatively speaking some firms may find their business dull when figuring upon their profits of ten or twenty years ago. Those were the flush times when competition in trade was limited and when San Francisco held a monopoly of the whole business of the Pacific Coast. But younger cities have sprung up and they naturally look after their own interests first. Younger men have entered the business fields, who, perhaps, may be more energetic than their older rivals who have held their own for so long with comparative ease and comfort. These are days of keen competition. We

cannot expect business to walk in at our doors as it used to do; we cannot expect to command the same prices as of old; we cannot expect to dictate our own terms of transactions. There is a good healthy honest rivalry which bestirs all to activity. The days of excessive speculation are past and we stand upon a firmer and more solid foundation. When a man tells you that times are dull he is probably elaborating some scheme whereby he can get a point ahead of you. It is no use complaining because our neighbors do so. If there be any ground for complaint we should one and all endeavor to remedy the evil and not try to increase it by chronic croaking.

CONDENSING MUST.

The work of condensing must at the Bugby vineyard near Folsom was unfortunately delayed last week by a breakage in the ditch that supplies the water necessary to operate the boiler and condenser, so that the Executive Officer of the Commission was unable to see the work in operation at the time he made his visit. Samples of the first lots that will be run through will, however, be sent to the Commission as soon as they are ready for inspection. Mr. Crabb who accompanied him on his visit last week was enabled to discover a very valuable variety of wine grape on the Bugby vineyard that has been known for some time as a Black Burgundy but different from all other varieties of that name in the State. He judged that by reason of its ripening together with the Zinfandel and its slight deficiencies in acid together with its apparent good supply of tannin and other qualities of equal value that it would be a good grape to use in vineyards together with Zinfandel to improve their quality in fermentation.

Both of these gentlemen are more convinced than heretofore that the grape known in Napa County as Golden Chasselas, but which has been bearing for a long time a false name, is identical with the Roussanne of the Hermitage vineyards of France and also probably the same as the Palomino or Listan of the Sherry district of Spain. This vine appears to grow very thriftily and bears well in very dry soils, and the wine made from it has always been recognized of good quality although it has not been utilized for Sherry making. Among the varieties ranked as noble in the collection of imported vines at the Natoma vineyard the Petite Syrah and Beelan were noticeable as good bearers in an otherwise unfavorable year such as this, so that it appears probable that they will be favorably received by vine growers established on the foothills where the Bordeaux Caret varieties do not appear to bear well. These gentlemen will soon also visit some of the vineyards in Santa Clara County for the purpose of still further continuing their investigations in classifying varieties.

A letter just received from Mr. C. B. Turrill states that he is delighted to hear of the activity being shown by our viticulturists in the matter of sending a representative to Louisville. He will be most pleased to co-operate with Mr. Pohndorf and will be glad to obtain that gentleman's valuable assistance.

A winery has been erected by Mr. R. C. Stillar of Guberville which will be ready and in full working order for this year's vintage.

THE SUGAR CHANGE.

A revolution in its way has happened in San Francisco grocery circles also in the future trade relations of some of the Hawaiian planters with this city. It has hitherto been customary for most of the Island sugar growers or their agents to sell their produce to the California Refinery, receiving cash on arrival of their sugars at this port according to the market quotations of the basis on which they were sold. This basis has been changed from time to time, from Manila to Cuba, and back again, at the request of the planters themselves as they thought that the market would rule in their favor. Sometimes they have benefited by the change and sometimes they have lost by it. According to a published statement in one daily paper, which is as unreliable in its information concerning Hawaiian affairs as it is possible to be, the American Refinery of this city has now entered the so-called field of monopolists and controls the Hawaiian sugar product, having purchased, by contract, some 55,000 tons of the coming crop. This it is supposed will leave only 20,000 tons for the operations of the California Refinery.

Granting, for the sake of argument, that the American Refinery does purchase 55,000 tons of sugar within the next year, part of which will arrive in about four months, we should like to know what they propose to do with it. With its present facilities this Refinery can turn out about 250 barrels of sugar a day, each of the average weight of 250 pounds. This means 31 tons a week, or say 35 tons, which will amount to 10,500 tons per annum. A very slight mathematical computation gives the result that it will take five years for the American Refinery to manufacture the one year's crop of Hawaiian sugar that it is now said to monopolize. It is only reasonable to presume that very large extensions and improvements will be made in the American Refinery. But these will cost money. The expense incurred by the owners of the California Refinery in bringing their institution to its present effective condition, so that it can turn out 2,500 barrels of sugar a day, was somewhere in the neighborhood of \$3,500,000. The American Refinery has a capital stock of \$1,000,000, besides its machinery and buildings, both of which must be extensively improved in order to prevent them from getting five years behind. Further than this there is the important necessity of cash payments to the Hawaiian planters immediately on receipt of the sugars, for we do not presume that these gentlemen have entered into an "ironclad compact" which would be "ironclad" only at this end. They are far too shrewd men of business. This 55,000 tons of sugar to be paid for in cash within a year means \$5,500,000, taking the rate at \$100 per ton. It may be that the agents in Honolulu are becoming so opulent that they can afford to wait for the money and even make advances to the planters who are not always overburdened with wealth.

This new monopoly may prove a benefit to the Islands and we hope that it will do so. But we doubt it. That it will not affect the California Refinery in the slightest degree is self-evident. Its owners will have at least some 35,000 tons of sugar from the Islands, and it seems strange that, up to the last minute almost, overtures were made to them for purchasing the balance of the crop—which overtures were refused. It seems then almost as if the American Re-

finery were used as a "stop-gap" so to speak, which would hardly be flattering to those gentlemen who are its directors or trustees. In previous sugar transactions the new Island planter monopolists have been accustomed to have their own way. When they desired to sell on the Cuban basis their terms were accepted. When they desired to change to the Manila basis their proposals were again accepted. Not content with the concessions continually made to them they have so antagonized the best friend the Islands ever had as to induce him, though very reluctantly, to refuse purchasing future sugar crops. Hence the offer to the American Refinery. It has been even stated that the planters proposed to sell to Eastern refiners. Such an egregious piece of folly on their part is inconceivable. Experiments were once made in shipping sugar to New York and we believe that they proved a complete failure. This would entail a long voyage round the Horn, higher freights, a deterioration in the quality of the sugar and an average delay of twelve months in obtaining returns which would leave lower net profits than they have been accustomed to. It has been insinuated that the California Refinery will have to suspend operations. Such is not the case. It is on the contrary increasing its facilities for manufacturing sugar. There is plenty of sugar obtainable both from Manila or Central America which can be landed, duty paid, in San Francisco, even cheaper than the Hawaiian product. Ocean transportation is no drawback. With its excellent wharfage accommodation and transportation arrangements, with a perfect mastery of the business which has been reduced to a science, it is extremely probable that the owners of the California Refinery may be able to manufacture sugar cheaper than ever and still at a profit. The California Refinery certainly can have no objection to the transaction in question especially as the parties interested can not be prevented from launching their capital upon the venture, whether such a course be objected to or approved by any party not interested. The carrying out of the proposed scheme will prove to a certainty, to those who were not aware of it before, that the purchase by and sale to the California Refinery of the Island sugars is not and never has been a monopoly.

WM. T. COLEMAN & CO.'S WINE SHIPMENTS.

The MERCHANT recently announced that the well-known firm of Wm. T. Coleman & Co. intended to engage in the wine business of California, handling the goods on commission and selling them in their original packages. That the firm has made a very fair commencement in this direction is evidenced by the consignments they have made to their New York house by the ship Undaunted which sailed this month. Their shipments were 150 barrels and 75 packages amounting to 9,835 gallons of California wine, of the value of \$6,000, besides 90 packages equivalent to 2,277 gallons of California brandy, of the value of \$5,000. This is a pretty good start for a new firm in the business and shows what can be done by energetic people. Full particulars of the shipments by the Undaunted are given in our regular wine table.

Hon. R. M. Daggett, the late American Minister to Hawaii, has been in San Francisco within the past week. Mr. and Mrs. Daggett have gone to Virginia City which will be their future home.

THE ARSENIC INVESTIGATION.

Professor Rising, State Analyst, has submitted a report on one part of his investigations, relating to the use of arsenic as an exterminator for grasshoppers, to the State Viticultural Commission, viz: concerning the danger to the public from the use of fruit grown in orchards and vineyards where the remedy has been used.

The Professor visited the vineyards near Fresno where the remedy had been applied most thoroughly and with the greatest effect, and found in the course of his inquiries among vine growers that the result of using it had been quite satisfactory to the proprietors, who consider that in another year, knowing this in advance, they will be enabled to thoroughly protect their vines and trees from the pest without using as much as has been done this year. The remedy was announced during the prevalence of the attacks when it became necessary to follow the grasshoppers among the vines and trees. Another year they expect to be able to accomplish the same result before the insects have passed away from the marginal lands where they can be attacked much more readily and with less danger of criticism as to the method. A statement gained publicity to the effect that seventy thousand pounds of arsenic had been used in that district and appears to have been caused by a typographical error. As near as could be ascertained from inquiry it is estimated that from six to seven thousand pounds only were used in that entire district. He found that as the remedy was applied in the form of a thick paste and not in the form of a powder and laid either upon shingles or upon the ground that no accidental poisoning directly from the material first used was likely to occur or to be feared. As some had supposed that it was possible that the remedy might become so carelessly used to affect the fruit directly, this examination was made with a view to determine the facts of the case. As to the question which had been raised whether the grasshoppers after they have eaten the poison might not deposit, while dying, sufficient arsenic upon the fruit to cause danger to those eating it, or to those drinking wine made from the same, the Professor after washing portions of the vines on which such deposits might be made, reports as follows:

"The general conclusion which I draw from the above mentioned observation and experiments is that there is no probable danger from the use of grapes from the vineyards that I visited; in the case of the wine made from them, none whatever; and so slight in the case of the other rsin grapes as to be entirely left out of account.

It would be well to caution vineyard men to be very careful to gather up all the arsenic that has been put out. In a subsequent report I will advise in regard to the disposition of the arsenic so gathered up."

The Professor has been requested to report not only upon the disposition to be made of the arsenic after it is gathered up, but also upon the probable changes that may take place by possible combinations with the elements of the soil, with a special view of ascertaining whether it will remain in a soluble form in the soil or whether if, by any application to the soil, it might be rendered insoluble; also as to the probable danger of percolation and distribution, by mixing with the soil water, and to what extent it might become dangerous to the public.

This remedy has been received with so much favor on the part of the vine growers where it has been tested, both in Fresno

and near Folsom, that some public recognition will probably be extended toward the inventor of the remedy who it is said was Mr. Henry Mette whose vineyard is near Folsom. It is not believed that with the ordinary careful application it will be dangerous either to the public health or to the soils on which vines and trees are planted owing to the small quantity that is used and the fact that hereafter when it is better understood it will be applied in a more economical manner. The Commission will during the year undertake to ascertain if possible whether other poisonous mixtures can be used with like effect and less liability to public criticisms. Hon. J. Routier, whose vineyard is near Sacramento and Folsom, is so much elated by the success which he has achieved in the use of this remedy in protecting his orchard and vineyard that he considers the grasshopper plague, such as has visited us this year, a thing of the past and that the public owes a debt of gratitude to Mr. Mette for having invented it.

THE PRICE OF GRAPES.

As is customary every year there is considerable difficulty in obtaining reliable and accurate information as to the prices paid for grapes. We believe that the lowest prices will be touched in the South where the crops are more plentiful and have been less affected by disease. Some of the wine makers in the North have been offering \$10, \$12 and \$15 per ton as a general thing, and in one district where grape growers made contracts months ago to sell at \$22.50 they were considered to have done remarkably well. However, in this same district, offers are now being made to purchase grapes at \$26—but there are no sellers at that figure. In those sections where a few short-sighted wine makers have refused to pay more than \$15 per ton, most beneficial results will ensue. The grape growers, who have not hitherto made their own wine, are now hastening to make all necessary preparations to do so. They will thus gain experience and carry out the idea that has for so long been advocated by the MERCHANT of each man building his own cellar and making his own wine. As a rule the small wine makers will produce a better grade of wines than those whose business is conducted on a more extensive scale. With a certainty of a shortage of 5,000,000 gallons, as compared with the vintage of 1884, and a prospect of a superior quality of wines and the continued increase in consumption, prices should rule higher than they have done of late.

Hon. Paul Neumann, whose unfortunate accident was mentioned in the last issue of the MERCHANT, is rapidly recovering from the injury that he sustained. We are pleased to learn that no serious results are subsequently anticipated from what might have been a very complicated case. Mr. Neumann's return to Honolulu will necessarily be delayed for a few weeks.

In order to determine the number of varieties of vines which have not yet been classified or named, which are to be found in some of the older vineyards of the State, Mr. H. W. Crabb has visited several parts of the State so as to have an opportunity of marking the vines that are discovered, in such a manner that they can be selected for cuttings during the Winter.

Among the recent visitors to the MERCHANT office were Mr. T. C. White of Fresno; E. W. Maslin of Sacramento; Thomas L. Thompson, Secretary of State, Sacramento; Mr. A. Hoffmann of London; Colonel Geo. Macfarlane of Honolulu; Hon. R. M. Daggett of Virginia City.

Mr. J. H. Drummond, of Glen Ellen, reports that his imported French varieties of grapes are doing well this season and promise a fair crop. He cannot say the same however of his more ordinary varieties.

The Fresno Republican follows the example of the MERCHANT and advocates the establishment of wine shops in all large centers of population.

THE PHYLLOXERA AT BERKELEY.

An Unexpected and Surprising Report From Professor Hilgard—Reply of Commissioner De Turk.

At the meeting of the State Viticultural Commission held May 11th, a resolution relating to the phylloxera in the University grounds at Berkeley was passed. It was expected that immediate action would be taken by the proper officers to eradicate the pest at that point and little attention was paid to the matter until at the meeting of the Board of Regents of the University held about ten days ago the matter was brought up unexpectedly together with a report on the subject from Prof. Hilgard, who is in charge of the Agricultural Department of that institution.

The most surprising feature of the incident was the uncalled for attack on the Commission made by the Professor, together with many misstatements of well-known facts. Mr. I. De Turk, of Santa Rosa, Viticultural Commissioner for the Sonoma District and Chairman of the Committee on Vine Pests and Diseases of the Vine, has written a communication to the Secretary of the Board of Regents, reviewing the report of Prof. Hilgard in very mild terms. Considering the nature of the provocation and the serious errors in the Professor's report, the public might have expected a much more severe rebuke. Mr. De Turk's letter has been given to the public by the Commission in order to correct the impression that may have been caused by the Professor's misstatements. We observe that it is especially modest in refraining from fuller explanations of the laborious work of the Commission, which has had to deal with these questions ever since its organization. The Professor seeks to convey the impression that the Commission did not undertake to enforce quarantine rules against the spread of the phylloxera. There is no one in the State who knows the facts better than he does; he knows well that quarantine rules were adopted by the Board and were in active operation up to the time that the Supreme Court decided against them. It is a hard thing to say, but it is nevertheless true, that the Professor has lately proved himself both mendacious and malicious. If the Board of Regents are satisfied with his actions, it is no matter for us to discuss—except as we constitute a part of the public worthy of some consideration. It was reported that the Regents broke forth into laughter at the conclusion of the reading of the Professor's report; probably that was a suitable reception for the document in a body of men, who failed to see they were being trifled with; among the vine growers, however, there has been more disgust than laughter. Neither of these expressive methods of passing judgment are likely to do us much good; what we want is a sincere regard for public interest on the part of public officers and the harmonious administration of the law.

The following is a copy of Commissioner De Turk's letter in full:

BOARD OF STATE VITICULTURAL COMMISSIONERS. SANTA ROSA, August 24, 1885.

Dr. J. H. C. Bonte, Secretary of Board of Regents, State University, Berkeley: DEAR SIR:—At a meeting of the State Viticultural Commission, held May 11th last, a resolu-

tion was passed, instructing the Committee on vine pests and diseases of the vine, of which I have the honor to be Chairman, to ascertain whether the phylloxera still continues to infest the vines at the University grounds at Berkeley and, if so, to enter into communication with the proper officers of the University, and request that the infested vines be destroyed as soon as possible so that the pest may be completely exterminated before the season of prevailing Summer winds shall cause further danger by the spread of the disease into healthy districts.

The Committee has ascertained from the Local Resident Inspector at Berkeley, Mr. F. W. Morse, that the disease still infests the vines on the University grounds, but that it is confined to a small patch that has been reserved for experimentation. By reference also to the phonographic report of the Third Annual State Viticultural Convention, held in December last in San Francisco, we find on page 151 the following remarks made at that time by Professor Hilgard of the University:

"We have nursed at the University a little private experimental plot that is infested. We did not infest it purposely but it came to our hands infested, and we thought as long as we had it there, with no other vines that would be hurt about it, as the vines cannot bear anywhere in the neighborhood of Berkeley anyway, being pretty well protected against any outgoing enemy, we thought we would keep the insects on hand to make an experiment and study its habits in California. Until this year it was generally found by Mr. Morse, by the way, who has had charge of that subject, that the coming out of the winged insect through which the infection is spread far and wide on the wings of the wind, happened in about five or six weeks. This year with Summer rains it has been through three months and a half, was it not Mr. Morse?"

Mr. Morse.—Yes sir, nearly four months. Professor Hilgard.—For nearly four months that lovely insect was coming out of the earth and being spread by the wind. From our locality it could not be spread very far, but you may imagine what must have happened in the interval in the Napa and Sonoma valleys, when we think of the comparatively short time in which it is ordinarily coming up out of the ground. You have noticed the appearance of an ant-hill when the winged ants are coming out; that is just about the appearance that the vine had at the time these insects were coming out. You could not watch more than a second or two before one would come, and then another, and then still another, and that going on for nearly four months. You may imagine how many spread abroad over the infested districts in the upper valleys. It is very unfortunate that nothing has been done prior to this year, but now the cat is out of the bag and it will be very hard to catch it. It certainly should be the endeavor to enforce the disinfection of vines, coming from infested districts, or the bringing in of infested cuttings from infested districts. At any rate they should be disinfected. It should be done under the law, which compels each one to attend to that, and not to carry the infection amongst his neighbors. Every one who imports and plants infested cuttings is committing a crime against the public welfare. He may ruin hundreds of thousands of dollars' worth of property belonging to others. It is simply criminal and the law should so consider it, and it should be made sufficiently effective this year. Where there is any danger of infection, or even before, I would recommend the employment of the remedy which Dr. Bauer advised in well cultivated light soils, where it is an admirable protection, and if it will not completely do away with the danger it will at least diminish it very much. In light sandy soils I think it may prove a complete protection, for vines that are not infested now. In adobe soils that are not kept well tilled and which may crack, and sometimes it cracks in spite of our best efforts, I think it doubtful that it will be successful, because of the ease with which the insect may alight on the ground and crawl into the cracks. And few people who

have not seen it can realize how these little insects swarm on the surface of the ground at certain times. Sometimes a little earth clod, no larger than my finger, would have a dozen on it, and they would keep moving and tumbling over. One reason why they do not land well on sandy soil is that they cannot crawl without tumbling over each other, and fall on their backs, and struggle a long time before they can get on their legs again, and as soon as they succeed in recovering themselves they fall over again, and they finally tire and give it up; but on the clay soils where the particles are solid and large, they walk along without any difficulty, and crawl down through the crevices, and can reach any of the surface roots of the vines, and the surface roots are precisely one of the peculiarities of all of the most valuable of European stocks."

Considering that it was established without the necessity of further inquiry that the disease existed on the University grounds, the Secretary of the Commission was requested to forward a copy of the resolution passed by the Board to you, in the hope that immediate action might be taken to eradicate the pest before the usual force of the Summer winds could further endanger the vines of the portions of the State within reach of the same which are not now infested.

Our Committee is now informed by the Secretary that the communication to the Board was presented at a recent meeting of the Regents, together with a report on the same from Professor Hilgard, the latter of which antagonizes the efforts of this Commission and contains several important criticisms based on incorrect information which call for immediate answer on our part.

That the pest is liable to be carried by the wind to distant parts so as to endanger other points not infested is scarcely an open question. We respectfully refer you to the extract just quoted containing the remarks of the Professor himself, in which he has stated what is already too well known, that the winged forms of the insect arising from the ground in great numbers, even though only a few vines are infested, are spread by the wind far and wide. Of course it is needless for us to call your attention to the direction of the prevailing Summer winds passing from the Berkeley grounds into Contra Costa county, but from the statement of the Professor it appears that he is ignorant of the fact that vineyards are being planted within a comparatively short distance from the University grounds in the direction of this wind. He states in his report to you on this subject as follows: "Under these circumstances the chances of carrying infection to the vineyards of Contra Costa, the nearest of which is distant fifteen miles in a direct line under the wind, with many ranges of high hills between, becomes a matter of almost infinitesimal probability." For the information of your Board we submit the following copy of a letter received in reply to an inquiry, showing that the vineyard planting of Contra Costa county is much nearer to the University grounds than is reported by Professor Hilgard:

SAN FRANCISCO, Cal., August 19, 1885. Chas. A. Wetmore, Esq.: DEAR SIR:—In reply to your favor of this day I would say that I have a telephone line which runs nearly in a direct line from Berkeley to my place. I had that line built by the Telephone Company, by contract, at \$100 per mile and the Company charged me for four and a half miles. I am convinced from this that the distance is not more than four and a half miles. Very truly yours, THEO. WAGNER.

Between the vineyard of Mr. Wagner and the University grounds there is only one range of hills which is not as difficult to

pass as the range between Sonoma and Napa counties over which the disease has spread very rapidly. There are other small vineyards being planted in the canyons and valleys immediately over the first range of hills back of Berkeley, and in a line North and South from Martinez. It is only necessary that a single winged female capable of producing the Winter egg should light upon one of these vines to cause the pest to spread rapidly throughout Contra Costa county. The importance of destroying the pest at Berkeley consists mainly in the fact that up to the present time no trace of the disease has yet been found in Contra Costa county, and no other spot infested has yet been found in Alameda county. The danger to the vines of Alameda county from this source is not immediate, but if once established in Contra Costa county it would work its way down into the Livermore valley where several thousands of acres of vines are now planted. If there were other points of disease which could not be eradicated, endangering the vines of that section, the question would assume a much different aspect, but as the only point of immediate danger by means of transmission "on the wings of the wind" exists at Berkeley, and as the vines there are being cared for under State control, it has been thought by us that the State could easily afford to set an example of attempting to remove the point of contagion as we have advised, by the parties to do the same, although we have no power to compel it to be done. The cost to the State in doing so would be practically nothing; the loss of the vines at Berkeley would be of little consequence as there are only a few of them and they cannot be successfully propagated for fruiting purposes in that section.

The desire exhibited on the part of Professor Hilgard to cause studies as to the habits of the insect to be instituted is commendable and should no doubt be encouraged, but we would respectfully suggest that better opportunities are offered for this work in regions where the pest exists now in great numbers and where abundant opportunities are presented for observation. To cultivate the pest at Berkeley bears the same relation towards our vineyard interests as would a similar effort to cultivate the codlin moth for the purpose of observation. Under the law controlling horticultural interests, if the State should undertake to preserve a breeding ground at Berkeley of the codlin moth, the officers committing the same would be guilty of a misdemeanor.

The Professor appears to consider that this effort on our part to procure co-operation in our work on the part of the University is an exhibition of extraordinary zeal, unprecedented by past recommendation on our part. We therefore respectfully call your attention to the numerous reports published by this Commission during the progress of our investigations, in which the habits of the insect have been explained and cautions have been given to the public based upon the same, and more particularly to the report of our Chief Executive Officer published last year, (see page 8) in which you will find the following statements:

"The prevailing Summer winds in the valleys of the counties near the Bay of San Francisco are in directions from the west, easterly and southeasterly. Topographical modifications deflect these currents sometimes northeasterly.

We find that in the Sonoma valley the progress has been very slow towards the west and north, but very rapid towards the east. The Napa valley south of Yountville has apparently been invaded by the winged female, which has been blown across the

high mountain ridge which divides this region from Sonoma. North of Yountville the pest was only found in a few spots, notwithstanding that part of the Napa valley has the greater number of vineyards.

In Santa Clara county it evidently started in one of the original nurseries in the town of San Jose, thence it was blown easterly and infected two other spots. This is more likely to be true than that it was carried on cuttings or roots from the nursery mentioned; because, while many vineyards westerly and southerly were planted partly with stocks from this breeding ground, no evidence of the disease has yet been discovered in them."

Also the following recommendations on page 9:

"Second.—That by using wise precaution in disinfecting cuttings before planting, and avoiding the use of rooted vines from infected districts, new plantations may be made with little danger of infection, except in the direction of prevailing Summer winds that blow from diseased places.

"Fourth.—That in all cases of new plantations in the directions of known contagion, only resistant stocks should be planted."

If Professor Hilgard desires to still further institute investigations as to the habit of the insect our Commission very cordially extends to him an invitation to visit and, if necessary, establish local stations in the infected regions where our experiments have been conducted on a much larger scale than is possible at Berkeley. It is usual we believe for scientific bodies to send special experts to investigate phenomena attending the development of contagious diseases, whether afflicting vines or human life, to the plague centers, as has been done by the French Government with respect to the phylloxera, and by the civilized world generally with respect to cholera or other plagues afflicting human life. We have never yet heard of an instance where a scientific body has undertaken to preserve a cholera pest in the midst of a healthy people for the purpose of observation. The opportunities offered by our Commission for such observations are peculiarly advantageous to the University because we have from the time of the first organization of this Commission sought not only the Professors but their assistants at Berkeley, to take charge of the experiments which we have undertaken, and for which we have provided the funds out of our appropriations. Mr. F. W. Morse, our chief investigator, who is also the assistant of Professor Hilgard at the University and in charge of his experiments there, has been employed each year by this Commission to investigate the subject specially, and through his able efforts and close observation we have been able to trace and discover the progress of the disease throughout the State. He is now in charge of the experiments made in Sonoma valley to determine the value of the proposed remedy invented by Dr. Bauer, the experiments being made on a sufficiently large scale to render them worthy of confidence. If any new application of this remedy should be required the Commission is ready to receive any recommendation concerning the same from Professor Hilgard, and will cause the same to be conducted under Mr. Morse, who is his trusted assistant, as we have done heretofore. It was through the careful work of Mr. Morse, employed by this Commission, that the disease was discovered in three places in Santa Clara County several years ago, due notice of which was given to the public and to the proprietors of each of the places infected, and to the vine growers in the vicinity together with urgent appeals to them to

take such action as might be efficient in eradicating the pest. One of the recommendations made by our Chief Executive Officer at the time being that a syndicate of vine growers in the county, whose property was threatened by the presence of this disease, should be formed for the purpose of leasing the infected ground with a view to the utter extermination of the source of danger. Our efforts in this direction have been hampered by the fact that the law authorizing us to establish quarantine regulations has been declared unconstitutional by the Supreme Court; we have therefore no power to do more than discover and publish the existence of the disease wherever found, and to make such recommendations as may seem best to warn the public of the danger, giving them suitable advice as to precautions against infection. In the Santa Clara valley it is fortunate that the disease is so located that by the prevailing winds the contagion is not spread in the direction of the majority of vineyards that have been planted, the direction of contagion being apparently southeasterly from the town of San Jose in which direction we have counseled those who plant new vineyards to set out nothing but resistant stocks. In the line of the prevailing wind from that center of contagion there are very few old vineyards and there is very little chance that it can be carried towards Alameda County except by accident. It is, however, a matter of anxiety to those having vines in healthy districts that this spot should exist untreated. Our efforts to cause those interested to take measures for the eradication of the disease in that section have been met continuously by violent opposition on the part of those who own the vineyards infected and by more or less concealment on the part of those who are interested otherwise in the county of Santa Clara. In fact, in nearly every place where the Commission has attempted to warn the public of danger and to suggest remedies we have met with like opposition. We do not, however, expect to meet with the same obstruction in our work on behalf of the State on the part of the State institution at Berkeley.

The reference to our Commission by Professor Hilgard, criticising us for want of activity in this respect, is especially unjust and uncalled for, as he has been continuously acquainted with all our efforts in this direction and is in constant communication with our chief inspector, Mr. Morse, who is his assistant, and from whom he has abundant means of acquiring information.

In equal degree also is his reference to the efforts of Mr. Wetmore unjust, as he has undertaken to cause the impression to prevail that he has been the Commissioner of this Board, representing the San Francisco Viticultural District in which the Santa Clara diseased vineyards are located, and has failed to urge action to abate the evil. We presume that Professor Hilgard is well acquainted with the fact that Mr. Wetmore was only appointed to represent, on this Board, the San Francisco District last Winter, and that he embraced the first opportunity that was presented, viz. at the Convention held at San Jose, to which the Professor alludes, to urge the people in that section to take action for their protection, as he had repeatedly done previously not only by correspondence and in public reports but also by addresses before local societies at San Jose, all of which is a matter of public notoriety.

The Professor is again in error in stating

that the Chief Executive Officer of this Commission "has been in haste to proclaim its entire failure," referring to Dr. Bauer's mercurial treatment. No such proclamation has ever been made by an officer of this Board. Under the direction of this Commission thorough experiment has been undertaken with Dr. Bauer's remedy at Sonoma, the work being in charge of Mr. Morse, Professor Hilgard's assistant. The method of experiment has been in exact accordance with the rules laid down by Dr. Bauer and the recommendation of Professor Hilgard, together with also original experiments suggested by our Chief Executive officer. The published statements of the Commission have at no time declared that the remedy in some form may not prove of value, but have been simply reports on actual observations made by Mr. Morse, showing that so far as the experiments have been undertaken they have to the present time proved failures, and from present indications there is little hope of success, although our officer has distinctly stated that it would be premature to pass a final opinion while the work of observation is still in progress and before further effort in this direction has been exhausted.

In Professor Hilgard's Bulletin, No. 18, published in October of last year, he stated as follows:

There can be no question as to the efficacy of metallic mercury finely diffused through the soil in killing the phylloxera or any small insect remaining within its reach for any length of time. Apart from the experience long had in this respect in the means used for the preservation of various articles, insect collections, etc., from the attacks of small insect depredators, the direct experiments of Mr. Bauer on earth and roots infested with the phylloxera have been entirely conclusive as to the inability of the latter to live more than a few hours in the atmosphere created in a close space, or in earth, at the ordinary temperature, by finely divided mercury. * * * * * In the case of Mr. Bauer's plan, however, the descending or ascending insect innocently crawls into a well-laid trap, which gives no outward sign even by an obnoxious odor. According to the experience had thus far, it seems quite likely that the unwary travelers would find themselves ensnared before they had any intimation of danger.

Dr. Bauer also has claimed for his invention that by planting vines in ground not infected, placing the finely divided mercury about the newly planted vines would effectually prevent the disease from entering the soil and affecting the roots thereafter. In order to test both the opinion of Professor Hilgard and Dr. Bauer, experiments have been thoroughly made, the result of which, however, tends to show that the insect can live on roots in the midst of a soil in which the mercury had been placed according to direction, that it can pass this supposed barrier in safety and that vines placed in uninfected ground as suggested by Dr. Bauer, protected according to his plan, may become, as they have been, infected. Whether there may be some other method of application of this supposed remedy with different results remains to be proved, but in the line of application as suggested by Dr. Bauer and Professor Hilgard there does not appear much chance of a success hereafter.

Our Commission has uniformly, from the first, extended a cordial co-operation to the Professor and his assistants working at Berkeley. We have been, of course, surprised to find that a spirit of personal antagonism accompanied by serious misstatement of fact should actuate Professor

Hilgard when called upon to report on our efforts. We desire in the future a continuance of the friendly relations that have existed between this Commission and the University, as co-operation in our work can become of great importance to the State, and in this spirit, as our Commission has been charged by law with assisting in checking the progress of phylloxera among the vines of the State, we again urge the University to eradicate the only known source of spreading the phylloxera in the counties of Alameda and Contra Costa "on the wings of the wind," thereby assisting us in our work by setting an example on the part of a State institution that may find imitators in other sections.

It is not known how long the disease can live on other plants when accidentally lodged by the winds. Instances are known where corn uprooted in diseased vineyards have shown the insects apparently living, at least for a time, on the roots. It may be possible that it can exist for a while on many different plants such as those that are grown on the University grounds for distribution throughout the State. The winged form may also in Summer time lodge the Winter egg upon different plants, which, being sent throughout the State, if they are planted within vineyard districts, may spread disease. As the danger is a real one and the advantage of maintaining the pest for purposes of observation at Berkeley are of small importance, we can see no good reason why our recommendation should be misconstrued and our efforts not only obstructed but misrepresented.

Yours respectfully,

[Copy.] I. DE TURK,
Chairman, Committee on Vine Pests and
Diseases of the Vine.

GOOD GLEN ELLEN.

In the matter of sending a special representative from California to the Louisville Exposition, in the interests of our wine and raisin industries, Glen Ellen has come forward most prominently. To Mr. J. H. Drummond is mainly due the position taken by his district which was the first to contribute towards the expenses necessary for the purpose of engaging the services of Mr. F. Pohndorff. The contribution from Glen Ellen alone, where the vinticulturists are comparatively few in number, is a handsome one. If other districts would "go and do likewise" there would not be the least difficulty in making prompt and definite arrangements with Mr. Pohndorff. Mr. Drummond has, in this respect, maintained his well-established reputation as one of the most energetic and leading vinticulturists of California. The Cloverdale Viticultural Club is, so far, the only Society that has volunteered to assist in this connection. From Sonoma we notice the only contribution made is by Mr. H. E. Boyes, an English gentleman who has recently settled there and who has not yet even commenced to make any wine whatever. Such public spirit for the public good should not be allowed to pass unrecognized.

Several of the winemakers of California who are now selling through a San Francisco commission house, find that their returns are considerably larger than when they were obliged to sell to local wine jobbers. They say that the difference in receipts between fifteen or twenty cents a gallon and forty-five cents is not to be despised.

The Olive Industry.

Don Ramon Manjarrés is the director of the School of Industrial Engineers of Barcelona, Spain. He has always taken a lively interest in the important Spanish industry of growing and manufacturing olive oil. Having progress in that branch at heart and recognizing the many defective antiquated methods prevailing in that industry which are kept up in his country, he has simultaneously, with the Oeconomical Society of Friends of the country of the province of Seville, conceived, and the society has taken steps to execute, the idea of an international conference on all matters appertaining to the olive oil industry. An exhibition of olive oils from all parts will be connected with that conference, to be held in Seville. It is to be hoped that the interest taken in that concourse, which is held to be of vast consequence for improvement in the olive oil industry in Spain, will be a vivid one, and the project become a fact.

The programme is an extensive one, and we think it of interest to our readers, many of whom may wish to learn as much as possible of a branch, which for Californian agriculture is momentous, to give it in its entirety:

FIRST GROUP—CULTIVATION OF THE OLIVE.

1. Rocks and geological collections of oliviferous soils.
2. Samples of olive grafts. Green and dry branches. Fresh and preserved olive fruit.
3. Tools and appliances for the special cultivation of the olive tree.
4. Diseases of the olive tree. Means employed to subdue them. Apparatus for applying these remedies.
5. Special manure for the olive grove.

SECOND GROUP—OLIVE HARVESTING.

6. Apparatus and utensils for gathering the olive crop.
7. Carts, baskets, etc., and transporting utensils.
8. Models and systems of housing the crop until pressing.

THIRD GROUP—EXTRACTION OF THE OIL.

9. Apparatus for washing and lifting olives.
10. Olive mills.
11. Apparatus for freeing the pulp from the stone.
12. Presses.
13. Desmuñecadoras.
14. Matting for holding the pulp under the press and means to substitute matting.
15. Pumps and appurtenances.
16. Samples of olive oils freshly extracted and without having undergone any other preparation.

FOURTH GROUP—CLARIFICATION AND REFINING.

17. Systems of filters.
18. Stoves, reservoirs and other utensils and apparatus for refining and clarifying oil.
19. Clarified and refined olive oils and methods employed.

FIFTH GROUP—COMMERCIAL PART.

20. Depots, jars and casks of iron, tin, zinc, earthenware, wood, glass, skin, etc, for storage.
21. Corks, capsules, wax, labels and other accessories.
22. Machines for washing, corking and capsuling bottles.
23. Collections of commercial olive oils for special destinations.

24. Reagenses, apparatus and method to ascertain adulteration of olive oil. Oleometers, Elacciometers, etc.

SIXTH GROUP—RESIDUES OF OIL AND THEIR APPLICATION.

25. Turbids, accitones and lees (borras) deposited.
26. Alpechin, bitter and acid elements.
27. Pomace or husks of olives.
38. Products extracted or fabricated from residues.

SEVENTH GROUP—MOTORS.

29. Steam engines.
30. Gas engines, compressed air machinery.
31. Apparatus for moving by horsepower (malacates).

EIGHTH GROUP—OILS FROM GRAIN AND SEEDS.

32. Oleaginous grains and seeds.
33. Oils therefrom both crude and refined.
33. Pomace and other residue from oleaginous grains and seeds.
34. Apparatus for fabricating oil from them.

NINTH GROUP—LITERATURE.

36. Books written and printed, treating of cultivation, synonyms, manufacture of olive oil, clarification, commerce and statistics of oil.
37. Memoirs and monographies.
38. Designs of plants and oleaginous fruit.
39. Plans and projects of installations, storage, etc.

The Reply to Mr. John T. Doyle.

EDITOR MERCHANT—Mr. John T. Doyle desires the interpretation of the Roman oenologist Mr. C. Mancini's advice to re-ferment a wine defectively vinified, on fresh pomace (vinaccia vergine). Mr. Mancini published his reply to a gentleman of Torre Bormida who wished advice for curing or improving that wine, described by its proprietor as having, when drawn off, resulted "imperfect, not equi-poised in its composition, unwholesome and disagreeable to drink, without flavor, feeble in color and without that brilliancy so valuable to render a wine good." The wine was of the Dolectto (Refosco) grape. Mr. Mancini, not having seen a sample of that nondescript wine, upon that vague picture of it, suggested as remedies: Blending it with a good mixing wine of Southern growth, fortifying it with spirit, coloring it with the color extracted from grape skins, solid oenociniana, and, as a last, and probably the proper remedy, he suggested the rejuvenescence of the defective wine by re-fermenting it on fresh, intact pomace at the next vintage. This process, known doubtless to many of our vintners and sanctioned by usage from immemorial times, might have been a very necessary one for defectively fermented wines of which there used to be an abundance in California only a few years ago, and more, many a parcel of 1884 yet unsold, might derive great benefit if passed over unexhausted fresh pomace and fermented again. As a means to diminish acetic acid in a wine, re-fermenting the same over fresh pomace is often made use of. In this case the mixture is carefully to be kept from air contact, as otherwise the fermentation of more acetic acid might be favored. To ferment out any remnant of saccharine in an imperfectly vinified wine, the liquid might require a certain amount of new must, toge-

ther with the pomace. The latter ought to be of both superior grapes and be utilized, of course, without the outer air and damaging spores having had to influence it in the least. Rules for the procedures under differing circumstances may exist, but the writer is not aware of them. The way to operate will suggest itself to the intelligent vinifactor, who knows the nature of his grapes and their dregs, and with a certain amount of juice can easily calculate how far to go in reforming a wine developed already, but containing parts of unconverted sugar and ferments in the bargain. The whole process is a enative one, and although Mr. Mancini argues good effect to his correspondent in employing it, it must be taken with the proviso that it be intelligently applied. I have heard of excellent effects and of failures in rejuvenating wines in the manner indicated, and success depends upon properly operating, that is, weighing well all component elements and handling them with care and exact knowledge of how, and in what proportions, to proceed.

I had no need nor opportunity, at the University trials last year, to experiment on the subject. My rules, except where large interests are at stake and reform must be sought of a parcel of wine, was always—send to the distillery wines that would be a dishonor to the wine cellar.

F. PDFF.

FUTURE FRUIT CROPS.

A glance at the enormous quantity of fruit trees, especially prunes, peaches and almonds, that are being planted in California causes one to think seriously what possible market can be found in a year or two for the extraordinary yields that will arise. In some sections there are miles and miles of orchards of one and two years growth which, when in full bearing, in addition to that arising from present sources, would almost indicate an endless supply of fruit far beyond all possible requirements. Yet there is but little fruit of first-class quality that can be obtained in San Francisco at such reasonable prices as should induce increased consumption.

The necessary funds to construct a railroad from Murphy's Station to Saratoga having been subscribed, surveying has been commenced and it is to be hoped that no hindrance will occur, so that the work can progress steadily. As this line will run directly through an extensive area of country which has recently been set out in vineyards and orchards, it is anxiously looked for by all the residents who will have cause to use it.

About ten years ago a California fruit grower obtained a few sheep to run on his place. They were accompanied, however, by some burrs which had adhered to their wool and which they dropped here and there throughout the fields, the result being a fine crop of thistles in the following year which the owner is still endeavoring to eradicate. The moral is—examine your sheep carefully before turning them loose to sow seed.

Experience has proved that both oranges and lemons do well in Santa Clara County, between Guberville and Saratoga in the neighborhood of the foothills. The fruit is pronounced of excellent quality and the southern counties should look to their laurels.

Wine-making.

[From H. Bonnard's Official Report, published in Sydney Mail.]

An ordinary red wine to be good, successfully made to retain its qualities last a number of years, must be the produce of three varieties at least of well sorted grapes, and when properly analyzed is found to be constituted as follows:

1st.—Water, which is its most considerable part, in the proportion of fully 80 per cent to the whole.

2nd.—Alcohol, the quality of which varies according to the producing country and to the temperature more or less favored at the time of the vintage. The alcohol the result of the decomposition of the glucose or composite of sugared matters during the vinous fermentation, and it is to its warmth, and its conservation for a long period and during over sea journeys. At the same time, an excess of alcohol strength is just as much a danger as an insufficiency of the same. It is considered that a good wine cannot have less than 13 or 14 degrees of alcohol nor a maximum of 26 degrees, as per Syke's alcoholmeter equivalent to from 8 per cent to 15 per cent of French measurement, per Gay-Lussac instrument.

3rd.—A small quantity of not very soluble sugared matter, which ferments somewhat lightly, sometimes during several years, and renders finings and rackings always necessary at various times.

4th.—Salts of potassium and other acids such as tartar, bitartrates, tartrate, given to the wine a fresh and agreeable taste.

5th.—A most essential oil, contributing to provide the bouquet, the aroma, and a taste or seve special to the wine.

6th.—An astringent rough matter, produced by the stalks of the grapes, and especially by the seeds of the berries, which is named tan or tannin, and which without modifying the taste of the wine, unless in excessive proportions, secures its conservation to a very appreciative extent, adding also to the darkness of its color.

7th.—A coloring matter, more or less abundant, contained in the skins of the berries, from which it runs without any particular pressure, other than the mechanical breaking of the skin when coming in contact or rubbing with the grapes.

8th.—Parts of carbonic acid which come out at the time of the fermentation of the must, and of which some small portions remain suspended or combined in the liquid.

9th.—Volatile ethers, which form themselves in the wine by the combination of various acids, and not of sufficient consistency to be analysed.

10th.—Several not well defined acids varying in each country, affecting the bouquet, taste, after-taste, and hygienic qualities of every wine, and resulting from various causes, mostly from the skill displayed by the vinification.

Whatever be the origin or quality of wine, it will always be found to be constituted of the above various elements, given by nature. These constitutive principles are liable to be developed for the perfection of the wine by the work of man, according to his experience and his observations of various numerous conditions, among which are the nature of the climate, of the soil, and of the kind of grape, and of its maturity, mention of which has already been made.

Now the art of making good wine is possessed by a few, but it is not generally known by the majority of the wine growers of New South Wales. Indeed, amongst our owners of vineyards, several have succeeded to send very acceptable wines, which have fetched good prices on the market. The non success of others, more numerous, however, than the first, is due mostly to their want of means for acquiring proper knowledge and appliances, as well as to the neglect, in many cases, of benefitting by the experience of previous years, by constant remarks and observations, which should be daily registered.

For the manufacture of their wines, the majority of colonial growers have had no European experience, no exchange of communications with well informed neighbors or others, and often not the best of implements. In fact many have succeeded more by good luck or happy concurrence of circumstances, or thanks to the well adapted soil and climate of the colony for the growing of the vine-tree rather than to any special ability or personal merit.

Judging from the samples lately sent from New South Wales to Europe, the generality of competent connoisseurs, scientific and practical men, are of very firm opinion that Australia must ultimately succeed in producing wines of a uniform character, or a most certain conservation, and of a marked improvement upon everything which has so far been done by the universality of foreign and exotic producers. They said the country possesses every necessary element to the making of good wines, not exceptionally, but at large, whenever the colonial people will go the right way about it, and have learned how to do.

The following principles should be adopted for general guidance in the making of wines, independently of the various ways adopted in the several districts visited and reported upon in another part of this report.

It must be said from the beginning that the making of wine meets in Australia, as in all warm climates, with more difficulties than in France, or other parts of Europe generally more temperate. The most serious obstacles in such a climate as New South Wales is in the excess of the saccharine matter in grapes, a most certain and very influential element of weakness, as, even in the first year, at the beginning of the hot season, it renders the wines liable to get sour, and to ferment again if at all neglected.

The other causes of failure are, on the whole secondary, and must disappear by degrees, as the wine growers become more experimental, more attentive, and acquire larger means to assist them in the progress of their industry. These other causes are:

1. The want of mixture, or the unseasoned mixture of the grapes put together in the fermenting vats.
2. The want of the necessary implements, as compared with the importance of production.
3. The uncleanness of the maintenance and of the vessels intended to receive the wines, during and after the first fermentation.
4. The uncertainty yet existing as to the practical means of obtaining a good and complete first fermentation.
5. And, ultimately, the want of the necessary buildings, cellars, etc.

It is not meant that these causes are generally to be found with our wine growers, but there is no doubt that numbers of them

may take note, with advantage to themselves, of the above remarks.

The five last said bad elements are adverse causes being known, remedied, and done away with; the only one yet to be fought is the first excess of glucose or saccharine matter. The experience of a few years will be enough and sufficient to any intelligent and careful grower for reducing it to a minimum, and even to nothing at all, without using any chemical, drug, or artificial compositions.

To that end one of the means which I have generally heard recommended by wine growers is to do the vintage before the maturity of the grapes is quite complete. But others have also pointed out that it will cause the wine to be of an inferior, if of a conservative quality, as no good wine can exist unless the grapes from which it is made were absolutely ripe at time of vintage. That is with respect to red wines; as for the white wines, the maturity must even be considerably passed.

A special study or knowledge of each species in a vineyard of its qualities and of its quantitative producing capabilities must be obtained previously to sending the grapes to the press-house. All species of wines do not ripen simultaneously. There is often a delay of a fortnight amongst them. The berries of a particular tree may not even ripen on the same day. In such cases, the vintage must be done partially only, leaving the late grapes for a subsequent day.

To secure or provoke an early maturity, it is recommended to slightly but neatly cut, as is done for the ring-barking of gum trees, round the stump or any branch of the vine, and preferentially round the branch left from the previous year, a circular, narrow piece of the bark, a week or so before the blooming of the vines is expected. This ring-barking of the vine tree should not, however, take place every year, but only occasionally, and more especially during rainy seasons, unfavorable to the development and progress of the grapes. In very favorable years, the ring-barking had better be avoided, and is further unnecessary.

The taking away of the leaves, shortly before the time comes for the vintage, is a proper thing to do, as it also helps maturation, by allowing the grapes to receive the rays of the sun, and thus advance much quicker to term than otherwise. This taking away of the leaves should be done only when the grapes are almost ripe, and more especially when the ripening is late, and appears as likely not to become complete in time, an event which, however, is hardly ever likely to occur in any part of Australia, but which is yet by far too slow in the colony, owing mostly to the nature of the species now adopted. The *effeuillage*, or stripping the leaves at a period to be discovered by experience, must, therefore, be recommended to the wine growers, especially to those of the north, to obtain an earlier maturity and thus avoid or reduce in some limit, the high degrees of sugar and alcohol accumulated in their grapes by long exposure to the heat of the sun.

The state of perfect maturity of the grapes is known by their color and their taste truly liquorous and sugared; if the grapes are not quite ripe the berries are somewhat of a dull dark, and their taste yet slightly acid. Many wine growers, to satisfy themselves as to the degree of maturity of their grapes, do for a few days before they expect full maturity press the

berries of a few grapes through a moderately fine piece of linen; the juice is received in a small tin, glass, or cup of about half a quart dimension, and the density or degree of saccharine matter contained in that juice, is at once ascertained by dipping in the *gleucometer* or *mustimeter*, which, being left to float by itself, indicates by its scale the quantity or degree of sugar contained in the grapes; it is as well to repeat the essay three or four days, until the instrument does not get deeper in the must, or when the degree required by the grower is attained; also to regulate the temperature of the juice, the instrument being prepared to act at a temperature of 55 degrees Fahrenheit and 15 degrees centigrade. Each degree indicates per 22 gallons 1500 grammes of sugar, representing a degree or 1 per cent of alcohol in the wine, less a deduction of 1 in 12 for other matters than sugar.

In the practice, it is admitted that 1600 grammes, or 30 English pounds of grape sugar, will, by fermentation, transform themselves into 1 quart of alcohol. The French *mustimeter* is marked and calculated to weigh, or rather float at 1000 or 100 in a quart of distilled water. The upper divisions above 1000 or 100 indicate the lower density of the liquid as compared with distilled water; the lower marks show the heavier density of such liquid, which in our case would be the juice of grapes. No absolute table or scale can be given, as some must will be more dense or compact than others, according to the species of the grapes, but the less deep will the instrument float in the must the richer in sugar will the juice be.

Any distilled must showing only 6 to 8 degrees Gay Lussa, or 10 to 13 degrees Sykes, would not turn out a good wine; from 13 to 26 degrees it will be a light, ordinary wine; above 26 degrees Sykes or 15 degrees Gay Lussac the must will become a liquorous or strongly alcoholized wine.

The *gleucometer*, or *mustimeter*, or densimeter, or saccharometer (for it is all one under different names), is not, however to be depended upon absolutely, as it is intended merely and can only show the density of a liquid, and not what that liquid may be composed of. It is thus that certain grapes having the same density will not necessarily contain the same quantity of sugar, nor produce the same quantity of alcohol, owing to differences in their nature, but for practical purposes the indications within the above limits will answer sufficiently; colonial growers yet unacquainted with the use of the densimeter will do well for themselves by learning how to use it, and by providing themselves with it. The instrument to select should of course be one especially prepared for the weighing of must, and according to the scale adopted by the European wine trade to facilitate its reading and understanding.

On the other hand, should there be an excess of maturity, there is as much danger as otherwise, for in that event the skins of the berries are almost destroyed, or very reduced in thickness, and as they are a part of the grapes, which must contribute to give the tan, and also color, the wine is likely to come out with less color and with a taste not so true or straight.

Farther, with respect to the excess of saccharine matter in the red wines of warm countries, one of the principal remedies should be found in obtaining proper species of early maturation, allowing vintage to take place in January if possible, or,

again, in delaying pruning until August, so as to delay thereby the blooming of the vine, thus avoiding the grapes being so long exposed to the heat; and again, to a judicious selection of the species which are to ferment together in certain proportions; to succeed in that way a series of observations and studies by each owner upon his vineyard is the only method.

Actually, such method is certainly not generally followed in the colony. The grapes are thrown together in the vat just as they arrive from the vineyard, and the consequences must be that, although possessing all the elements necessary to the making of good wines, small quantities will be obtained having really a good quality, to the prejudice of the general and larger result of the vintage.

The necessity for being thoroughly well acquainted with one's vineyard should not frighten any one. The first care of any owner should certainly be to study the species he possesses, their actual conditions, and what they can produce both as quantities and qualities. Each species should have a specialty, one for color, another for alcohol, another for taste or bouquet, and it is from their proper mixture in the fermenting vats that depends the success of a wine.

By a wise mixing and vatting of the grapes of the various species suited to each other, a grower will always obtain at once, that is immediately after the first drawing off subsequent to the fermentation, what once the wine made and distributed in casks must be looked for through various blendings, which, of course, never give very easily as good satisfaction as would a fermentation in common.

It may thus be seen how important it is to proceed by experimentation, if it is again kept in mind that the several special characters of species are variable in accordance with the altitude of the vineyard, its aspect, the nature of its soil, and the mode of training and pruning its vines.

In the making of red wines, a certain proportion should be mixed of white grapes, say, one-tenth of each vatting, which will give to the red wines their limpidity, softness, and brightness.

The vintage should as much as possible be taken to the vat-house in vessels or baskets, all of about nearly the same capacity, so as to facilitate exact appreciations of their contents, and of the quantity of wine to be expected; the vessels intended to receive the grapes for fermentation should also be of a uniform capacity and size, proportionate to the importance of the vineyard. The smallest vats to be recommended on a large vineyard should be of no less than 1000 gallons, but it found practicable, vats of 2000 gallons or about so will prove preferable and more beneficial to the vinification, the fermentation keeping more regular and more active in large vats than in small ones.



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TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
F Bros, New York	Lachman & Jacobi	40 half puncheons Wine	4475	\$ 1478
L P, New York	"	25 barrels Wine	1211	484
O H, Newark	"	26 barrels Wine	1267	589
J S, New York	"	6 barrels Wine	292	131
L H & Co, Philadelphia	"	5 half barrels Brandy	132	289
F, in diamond, New York	S Lachman & Co	25 barrels Wine	1160	481
C L, Pittsburg	"	1 barrel Wine	48	43
K & F, New York	Kohler & Frohling	125 barrels Wine	6095	3710
L, in diamond, New York	J Guudlach & Co	18 puncheons Wine	2881	1968
B D & Co., New York	B Dreyfus & Co	180 barrels Wine	8472	3850
J L, Boston	"	25 kegs Brandy	250	470
"	"	20 barrels Wine	988	700
"	"	2 barrels Brandy		
"	"	4 half barrels Brandy	253	550
"	"	5 kegs Brandy		
M S & Co, New York	"	76 barrels Wine	3756	1800
G & B, Buffalo	"	10 barrels Wine	495	325
B B, New York	"	10 barrels Wine	473	189
J & A P & Co, N J	"	7 barrels Wine	353	190
L, in diamond, New York	"	6 puncheons Wine	999	575
A V Co., New York	Walter, Schilling & Co	120 barrels Wine	5626	2813
"	"	1 octave Brandy	27	54
Total amount of Wine			38591	\$19304
Total amount of Brandy			662	1368

TO CENTRAL AMERICA.

N L C, Corinto	B Dreyfus & Co	4 barrels Wine	200	225
G L H, Corinto	"	25 cases Wine	125	100
"	"	5 cases Whiskey		50
G D, Corinto	"	3 half barrels Wine	80	50
"	"	30 cases Wine	150	130
"	"	5 cases Whiskey		50
G D, Corinto	J Frowenfeld	1 package Brandy	49	63
R & H, San Jose de Guatemala	Hellman Brothers	30 cases Wine	150	95
"	"	3 packages Whiskey		42
G S & G L H, Corinto	J T Harland	3 barrels Whiskey	120	368
G L H, Corinto	"	4 cases Whiskey		39
L P, Corinto	Thannhauser & Co	1 barrel Wine	49	20
M R, Corinto	Montealegre & Co	26 cases Wine	150	110
S N, San Miguel	J W Grace & Co	3 barrels Wine	75	70
F V, Corinto	Cabrera, Roma & Co	1 barrel Wine	26	29
G K, Champoerico	Eugene de Sabla & Co	1 keg Wine	10	10
J M Co, San Jose de Guatemala	Urruela & Urioste	1 keg Wine	10	6
Total amount of Wine			1025	\$815
Total amount of Whiskey, 17 packages			120	549
Total amount of Brandy			49	63

TO MEXICO.

A V, Acapulco	Moller, Mautz & Co	2 half barrels Wine	59	27
P D & Co, San Blas	W Loaliza	2 casks Wine	118	43
Total amount of Wine, 5 kegs			177	\$70

TO NEW YORK—Per Ship Undaunted.

D L Fuller	Whittier, Fuller & Co	1 barrel Wine	49	\$ 40
W T C & Co	Win T Coleman & Co	150 barrels Wine	9835	6000
W T C & Co	"	75 packages Wine		
W J Hammond	C C Shattuek & Co	1 barrel Wine	50	50
R S H	H B Bimbaum	20 cases Wine	100	70
M G & Co	George F Hooper	2 barrels Wine	120	110
U S M	P G Sabatie & Co	4 barrels Wine	196	180
Alex Baring	Geo J Theobald & Co	3 cases Wine	101	140
S W Knowles	J N Knowles	6 cases Wine	30	25
A DeWitt	Kittle & Co	1 barrel Brandy	35	70
W T C & Co	Wm T Coleman & Co	90 packages Brandy	2277	5000
Total amount of Wine			10541	\$6615
Total amount of Brandy			2312	5070

MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	RIG.	GALLONS.	VALUE.
Honolulu	Ella	Barkentine	51	\$ 20
Victoria	Queen of the Pacific	Steamer	367	417
Mexico	Newbern	Steamer	105	114
Victoria	George W. Elder	Steamer	10	9
Liverpool	Fingal (British)	Ship	980	494
New York	Undaunted (Wine)	Ship	10511	6615
New York	Undaunted (Brandy)	Ship	2312	5070
Total shipments by Panama steamers			40,663 gallons	\$22,194
Total shipments by other routes			14,366 "	12,739
Grand totals			55,032	34,933

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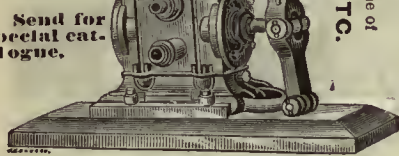
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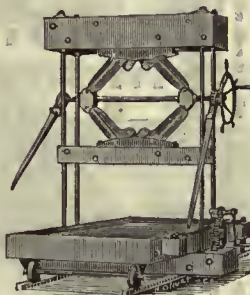
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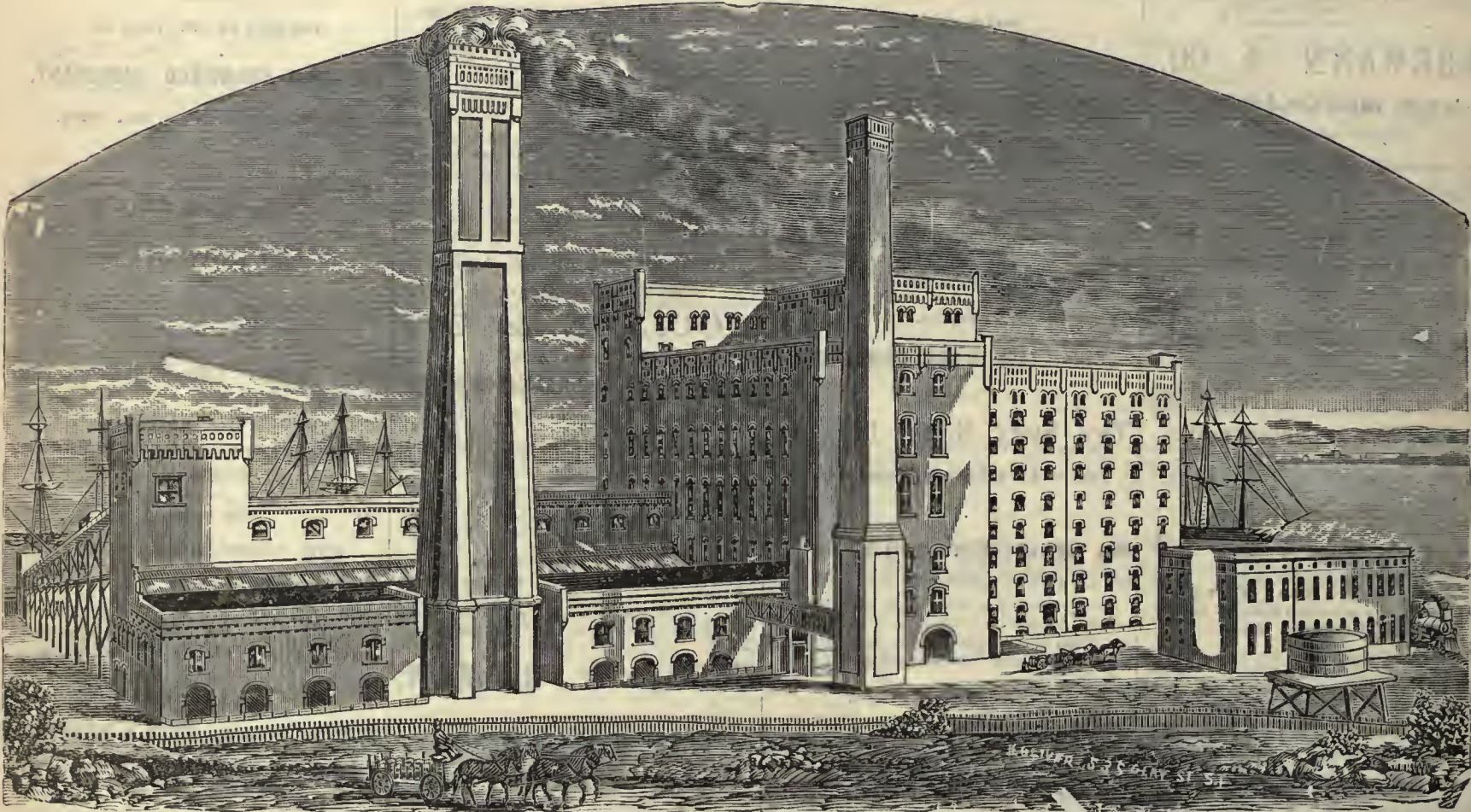
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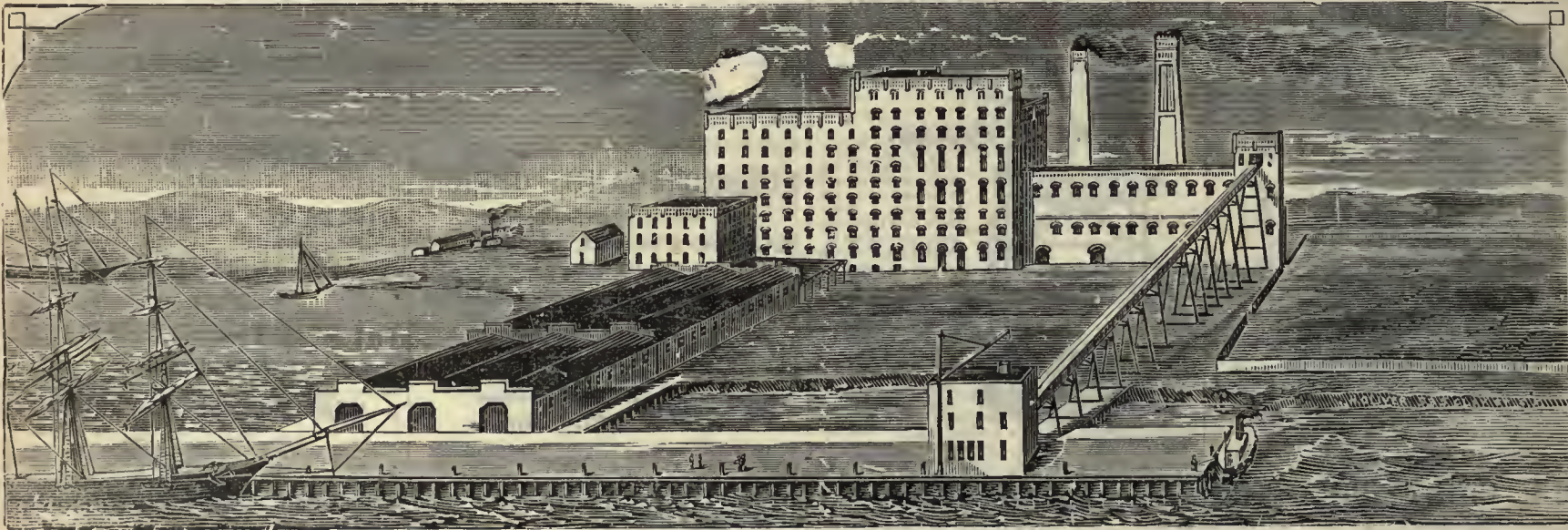
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- Frank Bacon, Prest, Bd. U. S. Com., Kansas.
George L. Shroup, " " Idaho.
Toht. W. Furnas, " " Nebraska.
John C. Kaffer (acting), " " Ohio.
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E. L. Koche, " " S. Carolina.
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THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION. NEW ORLEANS. JURY REPORT

Application No. Class.
Group.

The undersigned jurors in the above entitled class having carefully examined the exhibit made by the ANTISELL PIANO COMPANY OF SAN FRANCISCO, CAL., and all competing exhibits, concur in recommending the award of a FIRST-CLASS MEDAL AND DIPLOMA, THE HIGHEST AWARD OF MERIT FOR PIANO EXHIBIT FOR STRENGTH, DURABILITY, EXCELLENCE OF TONE, AND FOR THE SUPERIOR QUALITY OF LUMBER USED IN THE CONSTRUCTION.

Dated this 27th day of May, 1885.
JAS. C. TRUMAN,
FRANK BACON, } Jurors.
GEO. L. SHROUP. }

It will be observed that the President of the United States Board of Commissioners, Governor Bacon of Kansas, was also a member of the jury that gave the Antisell piano award; also Colonel Truman of New York and Colonel Shroup of Idaho. These gentlemen not only signed our jury report, but also the special mention. We thus give positive proof of our victory. Four other awards are claimed by piano manufacturers, but we have never seen any evidence of their premiums, not even to the value of a leather medal—simply their own assertion. False telegrams and publications from New York won't humbug Californians. It won't do to say that the Antisell pianos were not entered for exhibition or competition. No piano could be got into the exhibition unless regularly entered. New York manufacturers are trying to break down our awards, as they don't like to see San Francisco carry off the honors.

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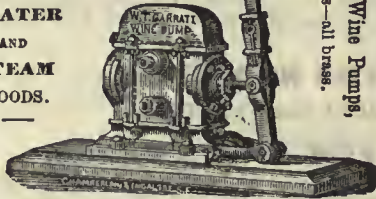
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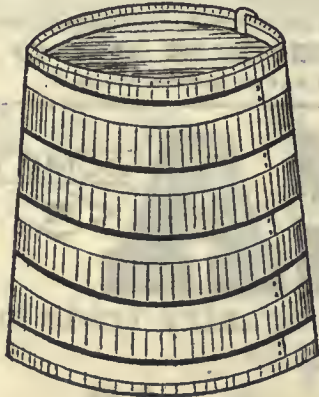
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SAN FRANCISCO, SEPTEMBER 11, 1885.

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THE LOUISVILLE EXPOSITION.

DEPARTURE OF MR. F. POHNDORFF THE VITICULTURAL REPRESENTATIVE.

Reports of Committee Meetings—The Subscriptions Received—Further Assistance Needed—Forwarding Exhibits.

Mr. F. Pohndorff, who has been selected by the Committee appointed by the State Viticultural Commission to represent the interest of the vine-growers of the State at the Louisville Exposition, started on Sunday, the 6th instant, for his post of duty. Mr. Pohndorff is a gentleman of large experience in viticultural matters both in Europe and in California. Besides seventeen years experience in Spain, he has also been connected with wine making in Greece, and in commercial operations in wine in France and other countries. He belongs to that class of experts in viticulture whose ambition is to develop a critical taste both among consumers and producers. He brought with him to this State testimonials from high and reliable authorities as to his qualifications, coming here in 1878 with a view to casting his lot among us for the rest of his life in the cause and development of the industry to which he is devoted. He is not one of those who foolishly believe that perfection has yet been attained in our products, but he frankly recognizes that we are capable of competing in the world with the ordinary products of commerce, and that we have produced enough, by way of samples and experiment, to demonstrate that we may, hope, with care and skill, to compete against the finest that the world produces. Since his arrival he has been connected with the wine trade in this State, first as cellar-master of one of the largest establishments, and afterwards as the representative of a Philadelphia house at St. Helena, and during that time has co-operated with our leading people in an effort to advance our prospects by means of the improvement of our products. The vine growers of this State need at the present time some representative in the East who can meet with those who are looking towards the products of viticulture as a basis for mercantile transactions and

the investment of capital, and who can give them sound and practical advice not only as to the present realizations of our market and facilities for entering into trade, but also as to the prospects of improvement in our vintages, which will surely change the nature of the trade which is now so rapidly increasing to the advantage of California. Our viticultural products, both raisins, table fruits, wines and brandies, will increase in a very few years so rapidly that very much larger facilities will be required for handling and placing them upon the market, so that consumers may obtain them at reasonable prices. Heretofore the merchants of this city have been able to market all that has been produced, but two or three years hence the product will be so vastly increased that there will be required not only increased facilities for storage for carrying the stock, but also a larger increased number of people throughout the Eastern States, where our chief market will be found, who will be competent to receive and handle the goods. In every State in the Union with a population of 4000 or upwards there should be at least one or more wine cellars conducted by men competent to manage wines, caring for them, ageing them and distributing them according to the demands of varying custom. Heretofore such a business has not been practicable on account of the limited quantities of the vintages. It is now time, however, to begin, in advance of the anticipated increase in our crops, to inform the public that investments in cellarage facilities may practically, and with good judgment, be made.

At the Louisville Exposition the representative of this State will have an opportunity to meet men from the central portion of the United States, including the States not only of Kentucky and the Southern frontier, but also Ohio, Illinois, Indiana and Missouri, and their surrounding neighborhood, in which section there is a large population of foreign-born people who have been educated, before coming to this country, in habits of wine drinking, and who would prefer to use wines at their tables to beer, or to using spirits, as is common at bars in saloons. It will be necessary, however, before any large trade can be obtained throughout the United States, to popularize the idea that wine is not necessarily a luxury; that it is not only cheap, but within the reach of all who desire to use it,

provided that the retail merchants will permit the custom to prevail of selling wines at the same rate of profit as they do other commodities. In the United States there are so many millions of people who would drink wine at their meals in preference to either tea, coffee or cold water, that it is also time to let it be publicly known that the wine drinker should demand, by right and justice, as fair treatment at the hands of the retailers, restaurant and hotel keepers, and other proprietors of places of public entertainment, as are accorded to those who drink tea and coffee, which are the products of foreign countries, but which draw out of our country annually millions of dollars of revenue without adding one dollar to the benefit of our home industries.

Mr. Pohndorff will have an opportunity of meeting at Louisville a great many people, including members of the press, to whom accurate information on this subject can be given. He will also be able to meet a great many of those interested in vine growing throughout the States, and make known the intention of the Californian vine growers, through their Viticultural Commission, to effect a harmonious combination of interests which shall be mutually profitable to all. The Chief Executive Officer of the Commission will go East later in the season, and at the earliest favorable opportunity will co-operate with Eastern vine growers in holding a Convention at some suitable point, where the interests of viticulture throughout the United States may be fairly discussed and made known to the public. It is not the intention of those who are sending, through the activity of the Committee of the Commission, samples of our viticultural products, to submit them for competition in rivalry with each other, or with the products of other sections of the country, but rather to enable those desirous of getting information on such subjects to know the true nature of our vintages, and to become satisfied that there is a large future opening for investment of capital and employment of the industrial classes.

The wines that are being sent on are not intended to show the extraordinary results that may be obtained in exceptional cases, but they are fair average good sound qualities, such as the market is able to supply, and which will be provided in abundance after the next vintage. Those

who have not yet contributed samples for this purpose should take an early opportunity for doing so. Goods may best be sent forward for this purpose in cases properly labeled with the name of the exhibitor or producer, and addressed in accordance with the rules laid down by the railroad company, which undertakes to transport them in baggage cars free from the station nearest to the point of production. Those who desire to send such material should communicate at once with the Secretary of the Committee, Mr. C. R. Buckland, at the office of the State Viticultural Commission in San Francisco, asking for tags and notifying him what they are forwarding. The tags sent to them will be sufficient to use as addresses for the proper transportation and delivery of the goods. Fresh grapes sent by different parties during the progress of the Exposition, which will last until the 20th of October, should be forwarded from time to time, so as not to arrive all at once. Raisins should be forwarded as soon as ready. The vine growers throughout the State should act on these suggestions promptly, without waiting for personal solicitation. The opportunity that is now offered is a golden one, and each should lend a willing hand to render the work that has been undertaken successful. The Committee that has the work in charge have undertaken to provide the means for the successful issue, but are in need of further contributions of funds to pay the expenses. Contributions may be sent to any member of the Committee, or to Hon. M. M. Estee, Chairman, or to the Secretary. These contributions should be forthcoming as soon as possible.

LETTER FROM MR. C. D. TURRILL.

EDITOR MERCHANT:—Your interesting favors of July 20th and 29th reached me some time since. The rush of work attendant upon setting up our display has kept me constantly employed and has permitted no time for correspondence. In less than three weeks we have set up the display which it required six weeks at New Orleans to pack. You can imagine from this what the rush has been day and night. Last evening I received your two favors of August 15th. I am glad to acknowledge the receipt thereof and to know that your people are taking so active an interest in the work in which I am engaged.

As regards the coming hither of Mr.

Pohndorff, I shall be exceedingly glad if such an end can be effected. You will readily understand that in this work I must be called upon at any moment to explain different things from different sections of our state.

One man will wish information regarding our Redwood for him and his party. Several hours may be consumed in speaking of the vast timber resources of our State, in explaining the system of working the immense logs into lumber and in showing the various purposes to which the different woods are applied. Another party will desire information regarding the honey business; they listen intently to the descriptions of the life history of the bees, to accounts of the various processes of extracting honey, making comb foundations, etc.; others spend hours examining the photographs, engravings, etchings and paintings of the scenery of our State.

They wish to know all about Yosemite, the Big Trees, Monterey, Southern California, the high Sierras, and the noted men of California; thus day by day the work goes on and thousands of visitors are eager to learn regarding the hundreds of advantages of our State. Thus you will see that my time is pretty well occupied and the resources of my information oftentimes severely taxed in trying to do justice to all of these different subjects. For these reasons I am particularly glad that the viticulturists can send some one whose more thorough knowledge will make it possible for him to do more good for these resources than I can do. I shall be very glad to co-operate with him in every way. It is not necessary for me to again mention those things which it would be advisable to show; you have the information now and the experience of your people to suggest those things which I have overlooked. There is now but one thing to do and that is work, the more active labor on the part of the vine growers the greater the success of the undertaking. There is no time to be lost. Now is the golden opportunity for introducing in this section the wines of California. The object is worthy of the labor, and in direct proportion to the energy expended the return will be. Let me therefore earnestly urge upon you, every vintner and raisin maker in the State, earnest and active co-operation and unceasing work. C. B. T.

LOUISVILLE, Ky., August 28, 1885.

Ed. MERCHANT: Knowing that the columns of your valuable paper are always open to anything of public interest, particularly when relating to our own State, I therefore ask the privilege of your columns to give some facts as to what is being done for California in this center of our Union. Californians who have the interest of the State at heart know what a magnificent display of her resources was made at New Orleans last Winter.

The same is being repeated here, even in a more attractive manner. The agent of the Southern Pacific Railroad, who had the placing and directing of the State exhibit at the late World's Fair, is here in the same capacity, and judging from the tasty manner in which everything is arranged, shows the benefit of his experience in presenting the exhibit in the most attractive way to the visitor. I was going to say the farmers of California owe a debt for the work done, but that would not be broad enough. True the products of the soil are the most fully represented here, but the artisan, mechanic and manufacturer all make a good showing.

The State Board of Silk Culture and Mrs. Stoddard of Lodi show the silk worm in all its stages, from the egg to the dead worker in his shell of silk. Then we have the hand of science taking the delicate fiber from the cocoon and showing the different processes, through which it passes until it is ready for the Misses to make their selections from.

The San Francisco Woolen Mills have on display some of the finest blankets ever manufactured from wool.

Professor Lemmon has an attractive display of the wild flowers and grasses of our State all nicely mounted and labeled. Our honey interest has a prominent place as it should, being represented chiefly by Mr. J. E. Pleasants. The fact that five counties in California produced 10,000 tons of honey last year is an amount so great that the people of this section can hardly credit it, and would not but for the fact that nearly everything from our State so far surpasses their own, that they take it for granted that California can produce anything to any amount or any size.

The section of the Big Tree is the wonder and admiration of all beholders. The Redwood and the different uses to which it is applied, its durability as a fence post, its almost uncombustible nature, and its susceptibility to so fine a polish is a wonder to the beholder.

The San Jose Fruit Packing Company makes an attractive exhibit of preserved fruits in glass jars, as also does General Bidwell of Butte county. Mrs. Geo. A. Cook of Lugonia, San Bernardino county, exhibits over one hundred varieties of preserved fruit, in glass jars, where they have been for over a year, but they look as fine and fresh as when they were on the trees. Bernard & Bennidict of Los Angeles show their skill in preserving fruit by what is known as the crystallizing process. It looks very tempting and superior to the French product.

In wines there is a good showing made by J. Gundlach & Co. of San Francisco; R. Barton, F. T. Eisen of Fresno; Mrs. Warfield, Mrs. Hood and J. H. Drummond of Glen Ellen. But on these exhibits as well as the raisins you will hear more fully in the future.

Then there are the different cereals from nearly every county in the State, each being properly labeled, so that the visitor can see at once the name of the seed, the county it is from and by whom it was raised.

Forbes & Plaisted of San Francisco make a neat exhibit of their celebrated Castalian Natural Mineral Water and have a large patronage, as they dispense it free to all.

There are a few specimens of ore but the State does not make the exhibit she should in that line.

The Standard Soap Company of San Francisco has a fine display of fancy soap. There are many other things worthy of mention, but I fear I have already transgressed on your valuable space. I cannot close however without answering the question which will naturally be in every one's mind that hears of this Exposition, Who pays for it?

Last Fall I attended four of the leading Fairs in our own State, at some of which I met the agent of the Southern Pacific Company, and heard him ask the people to contribute their products from their farms, workshops and manufactories and that he would pledge them a free transportation of their goods to the World's Fair at New Orleans, a prominent position there, and the

return of their articles at the close of the Exposition. This done they were asked to continue their exhibit and it would be shown at Louisville, Kentucky, free of charge. This is now being done in the manner described and is a credit to the Southern Pacific Company, who so generously footed all the bills at New Orleans, and here also.

I understand there is to be another grand exhibit of States, to be held at the same place as the late World's Fair, to open on November 10th of this year, and that Mr. Turrill has been appointed State Commissioner. No better choice could be made, for his experience amply fits him for the place.

I learn that he expects soon to be before the people of his State again, asking for articles of all kinds, by which the State can make an exhibit worthy of her name at the coming North, Central and South American Exposition. I bespeak for Mr. Turrill a hearty reception, because of the untiring zeal he has manifested on behalf of our State. A CALIFORNIAN.

The following samples are considered desirable, by the Committee, to be the main features of the exhibit, which should be, in every possible particular, typical of the viticultural industry of this State.

First—Collections of wines, brandies, raisins and fresh grapes.

Second—Photographs of vineyard scenes, wine cellars, grapes; charts, pictures or maps illustrative of the extent and diversity of the industry.

Third—Samples of soils from different localities, vines of different ages showing the branch and root growth; pressed specimens of the foliage; specimens preserved in solution.

Fourth—Products made from the grape, such as grape syrup, cream of tartar, etc.

Fifth—A register of varieties of vines for sale, with the prices and peculiarities of each concisely stated; also prices of wines for sale and by whom.

The Committee in charge of this exhibit are Hon. M. M. Estee of Napa, Chairman; I. Landsberger of San Francisco, Captain J. Chamon de St. Hubert and D. C. Feeley of Santa Clara Co., E. W. Maslin, W. B. West and H. P. Livermore of Sacramento Co., F. T. Eisen of Fresno, J. H. Drummond and Hon. W. McPherson Hill of Sonoma Co.

In order that efficient work may be done in Southern California, the following gentlemen have been requested to co-operate with the main committee, with respect to samples of wines and brandies, viz: Hon. R. F. Del Valle, Los Angeles; Hon. J. F. Crank, Pasadena; and R. J. Northam, Anaheim.

The following named gentlemen have been requested to assist the Committee in securing proper samples of raisins, illustrative of their different sections, viz: Robert McPherson, Orange, Los Angeles Co.; Col. L. M. Holt, Riverside, San Bernardino Co.; Geo. A. Cowles, El Cajon, San Diego Co.; T. C. White, Fresno; D. A. Jackson, Woodland, Yolo Co.; Hon. J. A. Filcher, Auburn, (for the foothills.)

Those wine makers and merchants, who desire to extend their trade connections through the medium of the Louisville Exposition, would do well to insert their cards in the MERCHANT, as special arrangements have been made for a large circulation there during the continuance of the Exposition.

MEETINGS OF THE COMMITTEE.

At the meeting of the Committee held on Monday, August 31st, the Secretary reported that Mr. Geo. A. Cowles of El Cajon and Mr. B. H. Twombly of Santa Ana had promised to work the most Southern counties for exhibits of grapes and raisins.

The following additional exhibits were also reported: Mr. George West of Stockton, wines and brandies; Mrs. Stuart of Glen Ellen, wines; Mrs. Justi of Glen Ellen, wines, including some that were 26 years old. Mr. J. H. Drummond reported three additional subscriptions from Glen Ellen, viz:

Table with 2 columns: Name and Amount. Mrs. Hood..... \$10, Mrs. Clark..... 10, Mr. Charles Kohler..... 10

This makes a total of \$110 from Glen Ellen alone and \$130 from Sonoma county.

The Secretary reported a contribution of \$25 from Mr. L. J. Rose of San Gabriel.

Hon. M. M. Estee reported the following contributions from Napa county:

Table with 2 columns: Name and Amount. Napa Valley Wine Company..... \$50.00, H. W. Crabb..... 20.00, M. M. Estee..... 20.00, Wm. S. Fisher..... 5.00, George Goodman..... 5.00, J. M. Wilcox..... 2.50, W. W. Thompson..... 2.50, Smith Brown..... 2.00, C. W. Plass..... 2.00, W. Johnson..... 1.00, Mrs. Herron..... 1.00, H. H. Knapp..... 1.00, W. K. Salmon..... 1.00

Total..... \$113.00

Mr. Landsberger stated that he was much disappointed in his applications to the wine jobbers of San Francisco, as only a few would contribute. He was most discouraged where he expected the most assistance. It appeared to him that the interests of the growers and the jobbers were antagonistic.

Mr. Estee offered to double his own subscription if enough money could not be collected to send Mr. Pohndorff to Louisville, and Mr. Drummond reported that he was authorized to double the subscriptions of four Glen Ellen wine makers.

On motion of Mr. J. H. Drummond, it was decided that Mr. Pohndorff should start as early as possible.

Wednesday, September 2nd, 1885.

At this meeting the Secretary reported the following additional subscriptions:

Table with 2 columns: Name and Amount. Wm. T. Coleman & Co..... \$25, Kohler & Frohling..... 25, Gundlach & Co..... 20, H. P. Livermore..... 20, Ward, Heathcote & Co..... 10, Juan Gallegos..... 10, George West..... 10, Balfour, Guthrie & Co..... 10, Bank of British Columbia..... 10, Sebastopol Winery..... 5

The Secretary was instructed to collect all the promised subscriptions, make the necessary arrangements for Mr. Pohndorff's departure and communicate to him the wishes of the Committee.

Friday, September 4th.

The Secretary reported a subscription of \$25 from Governor Leland Stanford, and that Mr. T. H. Goodman of the Southern Pacific Company had offered facilities for the railway travel of Mr. Pohndorff, both to and from the Exposition. This was subsequently supplemented by Mr. J. H. Woodward, agent for the Wabash Road, who granted a free return pass on his line.

A telegram was read from Mr. Pohndorff, stating that he would arrive in San Francisco on 5th inst. and start for Louisville on Sunday, September 6th. Mr. C. B. Turrill was notified to that effect.

The following additional subscriptions have since been received:

J. De Barth Shorb.....	\$25.00
Allen Box, Glen Ellen.....	10.00
Mr. Wagner, Glen Ellen.....	5.00

The amount already subscribed not being sufficient for the purposes for which the Committee have rendered themselves responsible, it is earnestly hoped that other viticulturists will promptly assist with their contributions. Exhibits of wines, brandies and raisins should be forwarded immediately, and fresh grapes at intervals during the continuance of the Exposition.

All viticulturists are requested to forward their business cards and circulars to Mr. Pohndorff for distribution. These will also be kept for reference in a book obtained for that purpose so that parties in the East may learn with whom to communicate for trade purposes when seeking information. Mr. Pohndorff has been requested to solicit and obtain orders for individuals, but this he has refused to do, as he is working for the State generally and for the benefit of the viticulturists collectively.

CIRCULAR.

The Committee, appointed by the State Viticultural Commission, to obtain and forward to the Louisville Exposition samples of grapes, raisins, wines or brandies representative of the viticultural industry of California, have decided that:

WHEREAS, It is desirable that the California Viticultural Industry should be thoroughly and properly represented, at the Louisville Exposition, in all its branches; therefore be it

Resolved, That the services of Mr. F. Pohndorff be engaged to ensure such thorough and complete representation and to further our interests to the greatest possible extent.

In order to secure the services of Mr. Pohndorff it is necessary that the viticulturists of California should contribute towards the payment of his expenses.

I am therefore instructed to ask you to what amount you will assist in this respect and if you will kindly forward your subscription to any member of the Finance Committee mentioned below, to Hon. M. M. Estee, to E. W. Maslin, Sacramento; or to the Secretary:

Finance Committee—J. H. Drummond of Glen Ellen, Chairman; I. Landsberger of San Francisco; H. W. McIntyre of Rutherford, Napa County; F. T. Eisen of Fresno County; Captain J. Chamon de St. Hubert of Santa Clara County.

Mr. J. H. Drummond of Glen Ellen has collected \$100 from his neighbors.

By order of the main Committee.

I am Sir, your most obedient servant,
 CHARLES R. BUCKLAND, Secretary,
 323 Front Street, S. F.
 August 22, 1885.

A cheap vineyard of seventy acres, five miles from Gilroy, is offered for sale by Mr. E. S. Harrison. There are sixty acres planted in vines, most of which are in the choicest varieties. The soil and location are good and among the improvements are a winery and distillery besides the regular farming necessities.

The imports of raw silk at the ports of New York and San Francisco for the month of August, 1885, were 666 bales valued at \$401,209. The imports of waste silk, pierced cocoons, etc., in the same period, were 166 packages valued at \$29,128.

The Hawaiian Exhibit.

Large and handsomely finished photographic portraits of Kamehameha IV., Kamehameha V., Queen Emma, King Kalakaua and Queen Kapiolani attract attention to the national exhibit of the Kingdom of Hawaii at the Exposition. Those who left off foreign travels with the old school geographies will only recognize the kingdom as the Sandwich Islands, but the old geographies dealt in knowledge principally gathered through English channels and which excluded modern history. Since Kamehameha I. conquered all the islands of the group the Kingdom of Hawaii has succeeded the Sandwich Islands. The portraits of the royal family present types that resemble the dark-skinned inhabitants with which Kentucky is familiar. They are all large and somewhat handsome people, and obesity, the national requisite of female beauty, is present in King Kalakaua, his wife and his two sisters, who, attired in royal robes, are a long way from the King of Dahomey, whose robe of state is an imperial frown and a bone in the nose. A drawing of the first Kamehameha, founder of the great dynasty, represents him as tattooed and having a ring in his features, but evolution was rapid and pronounced in his descendants. King Kalakaua looks like a nut-brown ex-President Arthur. The Princess Victoria, who is heir-apparent to the throne, is half white. Her father is a Scotchman who married the Princess Liliuokalani, the eldest sister of the King, who is himself childless.

The Princess Liliuokalani is well educated and a very handsome woman. She dabbles in literature and art. The Hawaiian language is not copious. It has but twelve letters in its alphabet, and a language so circumscribed as to form any combination must naturally be very limited in expression. The twelve letters and their equivalents are as follows:

Pronounced.	Pronounced.
A.....Ah	K.....Ka (French)
E.....A	L.....La (French)
I.....E	M.....Mon (French)
O.....O	N.....Non (French)
U.....Ou (French)	P.....P
H.....Hay (English)	W.....Way (English)

The ingenuity displayed in rendering foreign words by sound into this language is more successful than one would at first thought suppose. The twelve letters cover a wide range of sound, and a glance through some of the school books used in the Hawaiian schools is of interest. These are grammars, readers, algebras, geography, history, etc. In the geography the equivalents for the names of some of the States in this country are thus given:

<i>Hawaiian.</i>	<i>English.</i>
Nu Hamesire,	New Hampshire,
Veremoneta,	Vermont,
Masakuseta,	Massachusetts,
Rodilana,	Rhode Island,
Keotikuta,	Connecticut,
Nu Ioka,	New York,
Kenetuke,	Kentucky,
Vereginia,	Virginia,
Marilana,	Maryland,
Florida,	Florida,
Inediana,	Indiana,
Illinoi,	Illinois,
Tencsi,	Tennessee.

These examples demonstrate that the Hawaiian is a liquid language, and it is easily learned. The union of every consonant and vowel is a syllable, and so is a union of two vowels. The Princess Liliuokalani has published a number of songs, which are accompanied by English and German translations. One of these is as follows:

ALOHA OE.

Iiaheo kauni hall,
 Kenihi alla ka malele,
 E hahal ana i ka liko
 Pua ahilhi lehua o uka.

Aloha oe! Aloha oe!
 E ke onaona noho lka lipo.

Translation.

Proudly swept the rain cloud by the cliffs,
 As on it glided through the trees,
 Still following with grief the "liko"
 The "ahilhi lshua" of the vale.

Farewell to thee! Farewell to thee!
 Thou charming one who dwells in shady bowers.

The translation is evidently a very lame one, as the translator has omitted to give the equivalents of some of the words that convey political images. But at its best it does not seem to be poetry that any child at school in this country would be proud of writing. The Princess is also the composer of a National Hymn. The poetry, feeble as it is, is good enough for a fairy land like Hawaii, where perpetual spring reigns, where the natives fish and pick up fallen tropical fruits for a living and sing and dance for occupation. Besides the natives are dying out rapidly. In 1832 there were 130,312 of them. In 1878 a census of the Kingdom showed but 57,985 persons, over 5,000 of whom were foreigners.

There are two volcanoes on the island, Mauna Loa and Kilauea. The latter was violently active a few years ago, sending up great columns of smoke, steam, ashes, stones and rivers of molten lava, which destroyed everything in its course and threatened the city of Hilo. Steadily it approached, and the destruction of the place seemed inevitable. In this emergency the natives sent for an aged princess and besought her to make peace with Pele, the goddess who is supposed to have charge of the internal affairs of the volcano. The Princess went to the point, within a short distance of the city, where the lava stream was advancing, and, with certain incantations, besought Pele to withhold her and not destroy Hilo, at the same time throwing certain peace-offerings into the stream of molten lava. The charm worked; the eruption ceased, and after having reached the very outskirts of the city, the lava stream ceased to flow, cooled, hardened, and there remains, permanent testimony to the efficacy of Kanaka incantations. The present King was recently crowned with great ceremony, although he has been reigning some years. His palace and the Government offices are fine buildings, and Honolulu abounds in handsome private residences and fine business buildings. Although the race for which King Kamehameha fought and died is rapidly approaching extinction, it has been the means of building up an independent government and furnishing a home for American and European enterprise and industry that will perpetrate a nation of some kind in those little islands in the Pacific Ocean.

Dr. J. Mott Smith, who has charge of the exhibit, is Hawaiian Commissioner at Washington. He was a Massachusetts physician who went to California in 1850 after gold, and finding the rough life too severe pushed on to Hawaii, where he became physician to Kamehameha IV., rose to be Privy Councillor, and continued in favor through four reigns. He lived on the islands thirty years. His assistant, Mr. George Allen of San Francisco, never tires of explaining the fairy islands to the visitors.—*Louisville Commercial.*

THE EXHIBITS.

On entering the Sixth-street gate, the

first exhibit that greets the eye is that of the Hawaiian Government. It consists of sugar (the principal staple), coffee, rice, taro flour (made from the root of the taro plant, a sort of wild turnip, grown under water, and the main dependence for food of the native Hawaiians), numerous specimens of highly polished furniture woods, coconut wood, koa, kona, milo and many others peculiar to the islands. There are also specimens of paper quilts, made by soaking the branches of the kapa tree in water and beating them into a pulp. Formerly clothing was made from this pulp, but American cotton and wool have taken its place. A curious and interesting thing is the tie or necklace belonging to the oo bird, valued at from \$100 to \$600 each. The feathers from which these necklaces are made are taken, two each, from beneath the wing of the bird, which is afterward liberated. The necklaces are worn solely by the members of the royal family. There are also specimens of jewelry, ornaments, perfumery, palm hats, etc. The photographs of the royal family are also to be seen, and the attendant takes pleasure in giving the visitor much interesting information concerning them. The picture of the volcano of Kilauea is an object of great interest to the visitor and is very vivid, and is said to be a faithful representation of the lava lake of Kalemamau (house of eternal fire). The Sandwich Islands are situated 2,100 miles southwest from San Francisco and have a population of 80,000. Shortly after their discovery in 1776 by Captain Cook, Kamehameha, a chief of Hawaii, conquered all the other islands and united them under one government. His descendants reigned until 1872, when the family became extinct. It then became a question between Queen Dowager Emma, who favored England, and Kalakaua, who favored the United States, and in the Cabinet election the latter won by a vote of 42 to 6. Kalakaua ascended the throne in 1874, and is the present King. He and his queen visited this country a few years ago and were treated with distinguished consideration.—*Louisville Evening Post.*

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I. LANDSBERGER. J. M. CURTIS.

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RAISINS.

OUTLOOK FOR THE PRESENT CROP.

Raisin producers this year are generally in good spirits. The crop of Muscats has been good and the prices that will be realized will give encouragement for the future. It would be false, however, to assume that this prosperity on the part of raisin makers is entirely due to the unfortunate circumstance that the cholera is now devastating the raisin districts of Spain. A year ago raisin men, owing to the better facilities for handling their crops, realized better prices than heretofore, and it is probable that for a number of years yet, they will continue to do the same if they manage their business rightly and do not presume on a market which is valuable by sending inferior goods carelessly labeled as superior articles. It is to be presumed that the Government of the United States will not permit the people of this country to be endangered by the introduction of infested raisins, and that the crop of Spain, no matter whence it is shipped, or whether it is kept over another year, will be quarantined. It has never been disputed that even clothing and rags are capable of carrying and conveying cholera germs. How much more dangerous must be those products which are gathered by people in the midst of contagion, which ripen on the ground, and are packed in loathsome houses and handled under all circumstances which would make them liable to be infested, and worse than rags or other material which can be easily disinfected. It is practically impossible to devise a scheme for disinfecting a mass of raisins that have been packed.

The fact that this country should be deprived by means of quarantine of the raisin product of Spain and of cheap raisins will not cause any suffering. The raisins, even if they are limited to be the luxury of the well-to-do class, who are liable to pay prices which the market may demand, can easily find substitutes by the abundance of other dried fruits, such as the apricot, peach, prune, etc., which this country produces in abundance and cheaply. It is apparent from a cool survey of the situation that the quarantine of Spanish raisins must not only affect the importations themselves this year but for such time as may be necessary to satisfy the Government that the old vintages held over are not being thrown on the market together with the germs of contagion. Although this unfortunate subject has to be seriously regarded, our people are not so inhuman as to be elated because the sufferings of others may redound to their profit; yet as they are the ones first to feel the effect of this distress it is not at all extraordinary that they should become the best informed on the subject. If the consumers throughout the United States and the officers of the Government are apathetic in the presence of this danger, it should not be thrown in the teeth of our producers that they are working for selfish ends, while they are basing their calculations for their markets on the faith of the care of the Government for its citizens. It may be true that temporarily the raisin producers of California will reap a profit out of the misfortune of Spain, but it is not true that they have been the cause of this misfortune or that they should be blamed for cautioning the people in a matter in which their private interests happen to be involved.

Raisin Making in Valencia.

In describing his visit to the Valencia raisin district of Spain, Mr. Thomas Hardy of the Bankside Vineyards, Adelaide, South Australia, writes as follows:

As soon as we got into the country the roads were dreadfully cut up and dusty. After crossing a plain all under irrigation, and growing among other things flax seven or eight feet high, and which was being retted and worked close to the road, we reached a village on rising limestone land. Here we saw people living in hovels dug out of the limestone rock. At about five miles we came to some vineyards, and turned off the road to visit the "hacienda" of a wealthy merchant of Valencia. It is situated among low limestone hills; in many places the stone is quite bare of soil, and nothing growing there but a few scattered carob-trees. The house is a fine building, with terraces in front, and overlooks the garden and vineyards, which are all in the hollows between the hills. The land is all trenched and leveled, with the large stones taken out to build walls to keep the soil from washing away. The vines are all planted at a distance of ten feet each way, and are all of the Gordo Blanco Muscat. There were a few of both first and second crop left on the vines, and we remarked how fleshy and solid they were. The vines are grown very low, the same as at Malaga, and a hollow made around each vine allows the fruit to hang, but much of it lies on the ground. No supports are used, and not more than five or six spurs, very short pruned, are left on each vine. The grapes are dipped in a boiling lye before they are laid out to dry. An iron boiler was set on a sloping piece of ground, and at the back and sides was a floor leveled and cemented, where the grapes are spread on frames made of small bamboos, about 7x5 feet in size and fastened with crossbars of split bamboo on both sides, and tied through with esparto cord. There was a large shed full of them packed away. The raisin making was finished and the crop under lock, so that we could not see any of them.

The Foreign Raisin Market.

A correspondent of the London *Grocer's Gazette*, writing from Malaga, says:

Stocks here on 1st July, 1882, about 40,000 boxes; 1883, about 125,000 boxes; 1884, about 50,000 boxes; 1885, about 98,000 boxes; whereof the largest part are loose Muscatels out of condition. In consequence of the disastrously rainy weather during the gathering and drying of the last crop, prices ruled rather high, and the fruit was in a ruinous condition, a great number of boxes being packed which in many cases turned out rotten even before they were shipped, and in other instances the raisins got out of condition long before they were put up for sale in foreign markets. These circumstances made buyers very cautious, and purchases were limited to absolute wants only. The demand consequently was slow, and prices fell off gradually, as far as finest and fine fruit were concerned, up to the moment when customers became aware that stocks of these qualities were at an end, so that latest shipments fetched full prices again, and middling fruit, like choice and blue layers, finally obtained even a considerable advance on the highest opening prices. Stocks on all foreign markets are nil, and consequently an active demand for early new fruit is expected, th

more so as the crop is to be gathered again later than usual—most likely as late as the last one—owing to the extraordinary cool weather and frequent rains which we have had until now. This, however, is subject to some alteration if dry Northern winds prevail after this. The vines thus far stand well where the plant is not attacked by the phylloxera, but this insect has made further considerable progress, and the consequences will no doubt make themselves felt in the general yield.

NEWS FROM THE SOUTH.

A correspondent in a Southern county writes that the grape crop is very fine but that the heated term has done harm to second crop Zinfandels and Muscats. The wine makers offer from \$8@12 per ton for Mission and Malvasia but the grape growers propose to manufacture their own wines, and every vineyardist who has the means is buying tanks and providing cellar room. A decrease in the raisin crop is expected on account of heavy shipments East of the green fruit. The vineyards are turning yellow and the end of the first crop of Muscats and all the second crop will be poor. A large section of country has been planted, within the past two years, in Muscats and Sultanas, but the only change in wine grapes is that the vines are being grafted with improved varieties.

The raisin stemmer of Mr. George A. Cowles of El Cajon has so far proved exceedingly successful. Two boxes of raisins, 20 pounds each, were stemmed in forty seconds. This will ensure an enormous saving in labor and full particulars of the machine will be described later in the MERCHANT.

LOS ANGELES NOTES.

EDITOR MERCHANT:—As predicted two years ago at the Los Angeles District Viticultural Convention the grape growers and wine makers here have struck bedrock. The leading wine men met in Los Angeles on the 27th ult. and fixed \$9 per ton as the price for Mission, and \$13 for foreign grapes. Mr. Rose, who has always been the grape growers friend and done much to secure them fair prices, is out of the market. Wine makers say that they have their last year's wine on hand and cannot sell it. This is certainly the case with the smaller makers, those who make from 20,000 to 50,000 gallons. Their tanks are full and they are not able to add to their stocks. They have excellent wine of the kind, white wine from the Mission and Malvasia, but somehow it cannot be sold at remunerative prices. There is more shipped and sold, but the large makers supply the demand and leave the small ones without a market. This is the natural result of the over-production of an inferior article.

Our grape growers in this emergency are resorting to many ways of avoiding loss. Hundreds of acres of Malvasias on the gravel were laid down to dry two weeks ago. The Mission will follow as soon as ripe enough. Shipments of Malvasias to the East are being made from Orange and Santa Ana. Muscats are already laid down and by reason of the favorable weather much of the crop is ready for the sweat box. McPherson Bros. bought nearly the entire crop of this valley on the vines and are handling it in their most skillful methods.

D. Hewes, late of San Francisco, finished laying down his 200-acre vineyard of Mus-

cats ten days ago. Meanwhile the crushers have not turned a wheel in this vicinity, the wine men are waiting for the boys to come in with the grapes and the boys are waiting to be waited on. Malvasias are ripe, and the birds and bees and insect world generally are having their own good time.

In the meantime our grape growers are ruminating, in fact have become ruminants, and are chewing the cud with more of the bitter than the sweet in it. The point is what to do next. A few men with means have prepared to make up their own grapes into white wine and hold it until they can sell at a good price. Most of the growers see no future in increasing this stock of wine and are becoming satisfied that this is the time to change front. The dear old Mission is not half so dear at \$9 per ton as at \$18 and must go. Raisin grapes have the boom and are fairly remunerative. Many growers will graft Muscats on Mission, as the soil in most of the lower Santa Ana valley has clay enough to produce the raisin grape to perfection.

You may set it down as *un fait accompli*, that growing grapes to sell to the wineries in Los Angeles county is done, played out, gone up. They will get, at their own prices, that portion of the present crop that is not dried or wasted, but in future not much. Missions will probably disappear from our vineyards, the acreage of Malvasias will be greatly reduced, while Sultanas and Muscats and choice wine grapes will take their places. Very few wine grapes have been planted in this valley in the last two years, and few but the choicest will be planted in future. Our present cinch is just what we had a right to expect. Mr. Rose, Mr. Wetmore and other well-informed viticulturists told us two or more years ago that the present crisis would come. The lesson will prove a blessing if we have the wisdom to improve by it. "Experience teaches a dear school, but, etc." B. H. TWOMBLY.

Santa Ana, September 4th.

The fermentations that have been already completed in districts where the vintage was early were varying in success. The early vintage in Napa county, with grapes from the center of Solano county, has exhibited a remarkable degree of fermentative activity, finishing their ferments rapidly and showing good color and quality.

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"Governo."

EDITOR MERCHANT:—I send you such notes on the Italian system of "Governo" as my limited leisure permits me to glean from the publications of oenological journals of Italy.

It is of interest for our viticulturists to investigate the subject practically, and for prudence sake of course on a limited scale, at the end of fermentations of some of the musts from our red grape varieties.

We cannot get over the difference between the requirement of the taste of the consumers of Italy and those of our market necessities. Sprightliness, the enhanced zest in the wines from the presence of carbonic acid gas, freshness and pleasantness in the taste of the wines seem to be the merits in Italy, while as a rule our commerce exacts the early perfection of development in our wines, and we may say that for wines destined for shipment the presence of a considerable amount of that gas is a hindrance to the degree of maturity we desire for safety and brilliancy in our wines. How far the result of a speedy development can be obtained in applying the "Governo" to our young wines, will exactly have to be researched by practical trials. The re-awakening or exciting of a vigor in fermentation which has stepped from the degree of violence to latency, may or may not be an advantage. The effect of a dose of mash in the action of fermenting on a young wine just over its conversion into wine, may be a thoroughness of the whole physical operation—or the reverse. Sicilian wines, related in their nature to our Southern California wines, gain by the "Governo," as is stated in the notes by Professors Danesi and Mancuso Lima, of the Palermo experiment station.

I. Cavaliere Joseph Toscanelli at his winery in the center of his vineyard of 1200 acres situated in the Pontedera territory (Tuscany) follows the rule during fermentation of his must, to submerge the chapeau three times a day. After ten to fifteen days the young wine is fermented and racked. Towards the first days of November the first "Governo" is applied to this young wine. For each 26 1/2 gallons of the latter nearly eight pounds of grapes of varieties such as Colombano, Colorina or Canajuolo, well mashed, are put to ferment for twenty-four hours and then added to the wine. After a few days the cask is hermetically closed. In December it is racked.

In April the wines are handled by blending into the types which Cavaliere Toscanelli succeeds in rendering constant ones. If not sold till next vintage, the wine is given another "Governo" at the next vintage with fresh grapes.

2. Professor Bechi of Florence in 1881 asserted at the Oenological Congress in Rome, that through the "Governo" a wine produces a larger amount of ethers, both fixed and volatile; through the addition of fresh mash and the heat excited by the same, fermentation is resuscitated, and a supply of fresh acids obtained; thus the wine is given new zest and superiority of taste, a vast improvement over non-governed wines.

3. In Chianti nearly all grape growers apply the system of "Governo." They generally use the quantity of grapes, the liquid of which would fill a gallon, to the 100 gallons of the must fermented through.

4. Professors Danesi and Mancuso Lima of Palermo, in November 1883, published the circular of which a translation follows here:

"Although," they say, "frequent rains disturbed the period of maturation of the grapes and we had not grapes in proper condition, still our experiments resulted so well that we think they deserve to be known. The producers are welcome to inspect them at the experimental station and see for themselves the great difference between wines that are "Governato" and others that are left without that procedure. The vast difference in favor of the governed wine is apparent even after a month of the operation having taken place. We deem this personal judgment of every one the proper way to popularize the system which can be applied to many wines, improving them surely and being of advantage to the wine industry. Sig. Andrea Saluto has repeated on a large scale the experience of the 'Governo.'"

5. Marquis Spinola wrote from Rome February, 1884, that in his property of Torgiano (Umbria) he applied the Tuscan "Governo," and since then his wines were easily sold in Rome, where before that they were not liked.

6. Professor A. Fonseca of the Superior School of Agriculture at Portici, on June 26, 1885, publishes tables, the result of analysis and comparison of wines of the province of Naples, which had been treated and others not treated by the "Governo" system. These trials were made on quantities of 600 gallons.

Young Penticelli wine, which on October 22nd was racked after six days of fermentation and the 600 gallons governed with 54 gallons of Pie de di Colombe grape mash December 16th, the mixture was racked. Other two wines of Seedillo and of Portici were of similar grapes and handling. At the various tastings the "governed" wines were always observed to be superior in taste, clearer in aspect, of a livelier color and of more roundness and vinousness than the wines of the same casks before being "governed." The Professor states distinctly that the "governed" wines were of greater maturity and their perfume more distinct than the non-governed wines. The alcoholic proportions were in the three wines:

	Governed.	Non-governed.
	9.8 per cent.	8.2 per cent.
	8.4 " "	7.6 " "
	7.5 " "	7.3 " "
Tannin.....	0.6880 " "	0.8358 " "
	0.1566 " "	0.3155 " "
	5.00 " "	5.41 " "
Total acids.	5.617 " "	7.958 " "
	5.41 " "	6.21 " "

The wines non-governed were observed to be liable to generate micoderma more easily and that their lees decomposed more rapidly than those submitted to the "Governo," which from his tests Professor Fonseca considers the more durable wines. He is going to repeat his trials at the present vintage and meanwhile feels safe in recommending the method to the viticulturists in the province of Naples.

7. Professor Caruse of the Agricultural College of the R. University of Pisa, advises to apply the system of "Governo" to young wines. He recommends to add the preserved late grapes, crushed and after having begun their fermentation (for 24 hours) to the wine when clear and racked from the pemace. In due season when fermentation has ceased he advises to free the wine carefully of its precipitate by racking. Then he advises racking again in March, and, if the wine is to be kept, at the end of July. No sulphur to be used either for the cask nor the wine at the first racking.

The preceding notes will have explained the method. Of late ripening grapes of

quality and color, and necessarily of a composition in all respects homogeneous for the young wine to be acted on, a quantity not determined in each case, but in Tuscany somewhat like 8 pounds per 26 1/2 gallons of wine, are preserved on mats, kept fresh and of course every decaying berry taken off. These grapes are bruised and allowed to ferment and it seems when for 24 hours fermenting added to the young wine which has been racked clear from the pemace.

The subject has been discussed in the Italian oenological press for the last two years. Not one voice was raised against it. There must therefore be something good in it. If applicable in California, let us see. Last season Mr. Zoll, the efficient Superintendent of the Eggers' vineyard and winery, made a trial on a small scale, induced by me. He had the kindness to send me a sample of the wine which had experienced the "Governo." But in the course of business I have had no leisure to examine and compare it carefully, not having a safe object of comparison in a sample of the same wine non-governed. I preserve the sample however and shall examine it again.

The notes on "Governo" of press wine I sent you separate, is without doubt worth serving as a guide for our wine makers, and it will do no harm to any one to follow its really valuable prescription on a small scale for trial. In any case the advice of not allowing press wine and pemace to be deteriorated by air-contact, but work it fresh, quite fresh and save it from even the least amount of acetic spores, is money found by these who follow it. F. PDFF.

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FACILITIES FOR VITICULTURAL WORK.

The viticultural work, conducted for the benefit of the public at large, is being notably increased this year and more important results than heretofore will be achieved. This is due to the wise action of the Legislature in augmenting the resources of the State Viticultural Commission and the Agricultural Department of the University, the creation of the office of State Analyst and enlarged duties imposed on the Commission. More systematic work will be done than heretofore.

In his last report to the Board of Regents, Professor Hilgard asked for \$1500 per annum for viticultural work, and, in discussing facilities for the same, estimated that with \$1500 additional, increased cellar accommodations sufficient for this year and next would be needed. Better work, however, he showed could be done with an allowance of \$3000 per year for operations and assistance. The Legislature granted the \$3000 per year, by increasing the original demand of the Professor's Department to \$23,000 for the two years, which included an estimate of \$6,000 per year (\$3,000 per annum) for viticultural work. A demand was made on the part of the Professor for \$10,000 additional for a special viticultural laboratory, but the Board of Regents refused to include this in their demands. As the object of this latter demand was to obtain immediate advantages by means of prompt and thorough experimentation and scientific investigation for the benefit of our industry, the Viticultural Commission presented to the Legislature a demand for this additional sum to be divided between the University and the Commission; the practical tests of methods of vinification and the storage of samples for public inspection and study to be under the charge of the Commission and the scientific work to be conducted at Berkeley. This demand was agreed to by the Legislature by the insertion of an item of \$10,000 (\$5,000 per annum) for "viticultural, experimental, analytical and scientific work, together with suitable apparatus and accommodations for the same" under joint control of the Regents and the Commission. The item as demanded by Professor Hilgard was struck out of the bill, when the joint appropriation was made. The use of this fund is yet undetermined.

The analytical work to be performed by the State Analyst is an improvement on the plan heretofore provided for by law. It is constituted as a specialty and provision is made, so that when required the certificates of analysis may be used as prima facie evidence in courts of justice. The plan of this analytical work covers two leading features, viz:

First—The State Commission is empowered to purchase samples of viticultural products and forward them to the State Analyst for analysis. This enables the Commission to provide for systematic work and the determination of many difficult questions, which vary with the nature of products, native and foreign, and locality; also to obtain evidence of fraud and adulterations.

Second—It provides also that "any person desiring analyses of such products" (viz. wines and grape spirits and all liquids and compounds in imitation thereof) "shall submit the same to the Secretary of the Board of State Viticultural Commissioners and the same shall be transmitted

to the State Analyst." The act provides that the analyses shall be made and furnished to the Secretary of the Commission and the certificates shall be prima facie evidence in courts of justice. The samples so submitted must be accompanied by a written statement showing how the samples were procured, to be verified by oath, if required, by the Secretary of the Commission.

Under these provisions of law the public are enabled to procure information as to the true constituents of pure wines and spirits, also of adulterations that may be practiced, and prima facie evidence of either purity or adulteration, when required; also an opportunity is given for testing comparatively the properties of our native products and their foreign competitors, from which information may be derived material facts in aiding producers to ameliorate their products by suitable blends of different varieties, or by modifications in the methods of production.

By an increase in the appropriations for the State Commission that body is now enabled to do more effective work in the lines heretofore attempted and by direction of the new law to extend their field of action so as to assist producers in opening markets for their vintages.

There is temporarily a difficulty in utilizing all these new facilities owing to the refusal of the Board of Regents to unite with the Commission in apportioning the joint appropriations for the purposes intended. There is consequently a loss to the Professor of Agriculture for want of a part of the fund to supplement the use of the \$3,000 per annum, which he controls independently; no funds are provided for the State Analyst; and no part of it can be yet used to aid in the practical tests of methods undertaken by the Commission.

The Commission has urged the Regents to take action in time for the present vintage, so that these different departments may not be obstructed. A recent proposition of the Commission illustrates the questions that have been at issue, but which have not been fully reported to the public. The Commission proposed that \$2,000 be apportioned to Professor Hilgard's work, and whatever might be necessary for the working of the State Analyst's office, which is also at Berkeley, estimated at \$2,000 per annum, leaving \$1,000 per annum to assist the practical experiments conducted by the State Commission, which would add \$2,000 more out of its independent fund to complete its work. The committee of the Regents not only refused to allow this apportionment, but insisted that the entire fund should be placed under the control of Professor Hilgard, and that none of it should be used for the analytical work of the State Analyst and none for experimentation outside of Berkeley. Subsequently the Commission has proposed to have the fund equally apportioned between the two institutions, the Commission in that case providing for the expenses of the State Analyst. In the meanwhile Professor Hilgard has been prevented by the Regents from using part of the fund to supplement his work and the Commission had been forced to undertake the work of experimentation and the expenses of the State Analyst out of its other funds, which, if no agreement is arrived at soon as to the joint funds, will seriously cripple the Board during the coming year. As there are sufficient funds available for all present purposes, this situation is in effect a defeat of the intention of the Legislature, and both

the University and the Commission are suffering obstruction. It is in the power of the Regents to settle this difficulty, whenever they are disposed to do so, and it is surprising that they should now lay entire claim to a fund, which was procured at the solicitation of the Commission and which the former refused to ask for.

The Vintage.

Vine growers are cautioned this year to be extremely careful in gathering grapes which are to be sold to wine makers. The poor quality of wine made last year in some localities was the chief cause of the demoralization in prices for wines made. If the vine growers desire to assist in maintaining and establishing a reputation for the products of the State they must remember that the first precaution must be taken when the grapes are being picked so that inferior, unripe, damaged, sunburned, mouldy, unevenly ripened grapes do not get mixed with those that are of fine quality. In many places some varieties are ripening very unevenly; some spots have been badly damaged by sunburn; others by mildew. Wine makers who purchase grapes can, if they will, by carefully refusing to receive at the prices of first rate articles any damaged or inferior grapes, compel a reform which has been long needed in this State. As to the prospect of the vintage it appears now that there will not be made more than ten million gallons of wine this year, which, if the grapes are carefully picked, will include a larger proportion of fine quality than last year. As to the alarm which amounts almost to a panic on the part of many vine growers, who are not wine makers, with respect to prices, there does not appear to be any good cause for the same, except that which arises from an imperfect development of the industry, there being too many vineyards without facilities for wine making and storage. This trouble was predicted by the Commission and called to the attention of vine growers long ago. Until it becomes the rule in this State and not the exception that the vine grower is also the wine maker, with sufficient storage facilities to enable him to carry his stocks until they are ready for market, there can be no regularity in the question of prices. The lesson of experience this year, while it is reluctantly learned by many throughout the State, is however a most valuable one. Grapes of inferior quality will this year bring a low price and the grading of qualities will begin in such a way that the vine growers will see that it is to their interest to improve the quality of their products by grafting over stocks which they have been advised heretofore not to plant. They will discover also that there is a great difference between locations for producing fine qualities from given varieties of grapes and that quantity and quality are developed in inverse ratios in California as well as in all other parts of the world. A great many new wineries, some large, many small, are being constructed this year, owing to the timidity on the part of wine makers in establishing prices for grapes. Vine growers who ultimately intend to make wine cannot seize a better opportunity than the present to learn their business by actual experience, providing themselves with small outfits for fermentation, and educating themselves or their men in an industry which must have experts, but which must find the material for the same among our own people to a great extent. There has been at the office of the Commission quite a demand this year for experienced wine makers to

take charge of new wineries, and with the exception of a few instances it has been impracticable to procure men suited to the different places that have been offered, as it requires for the management of work in this State more or less local experience in our habits and customs as well as in our vineyards, before any man can be competent to take charge of work where he is responsible for the expenditure of money and the management of men. In most cases throughout the State the proprietor of the vineyard must become by personal experience and observation his own superintendent. To acquire the knowledge necessary he can afford this year to commence to learn on a small scale, even though his cellar facilities and buildings are incomplete and unsatisfactory; he will at least be in as good condition to learn the various operations in a winery as the early wine makers were in this State, most of whom had neither money nor credit to begin with. By consulting any competent cooper a small outfit for a beginning can be easily obtained, as quite a number are already doing. The caution of the Commission should not be forgotten, viz. against the use of deep tanks for fermenting red wines.

Experimental Fermentations.

Preparations have been made at the cellar of Mr. H. W. Crabb in Napa county under the direction of the Commission and management of Mr. Crabb for the following experimental work. Besides treating musts for red and white wine, sweet and dry, all the varieties of grapes best known in the State by various practical methods in order to determine the relative value of results obtained, there will be fermented also a large number of varieties of rare grapes which can only be obtained in small quantities, for the determination of their respective values. The Commission has found that it is impracticable to procure these small samples from distant points of the State to ferment in the laboratory at San Francisco, as was attempted last year by the Commission as well as also by the State University. The grapes arriving from a distance are very often in a damaged condition and more or less mouldy. The delays occasioned between the time of picking and the time of crushing and the damage caused by handling while in transit materially affect the quality of the results so that they are not reliable. The Early Black July grapes received at the Commission and fermented already this season were more or less mouldy when crushed, so that the wine resulting therefrom is useful only to determine the effect of yeast upon clarification and color, the taste of mould preventing the proper examination of other qualities. This trouble was noticeable last year in the samples fermented at Berkeley, the majority of those exhibited at the last State Convention being so mouldy that they could not be properly tasted and judged. In order to obtain reliable samples it is found that it will be necessary to do the work where the grapes are produced as nearly as possible, and to forward the grapes to the point of experimentation when necessary by express, using all possible dispatch in doing so. This latter necessity will arise, however, only in very few instances this year, because in Mr. Crabb's collection nearly all the known grapes of the State are being cultivated. After the fermentations have been completed, the samples that will be brought to San Francisco and stored in the experimental cellar that will be established by the Commission will afford not only the opportunity to study different methods of treating wines after fermentation but also the development of their qualities. Samples from France, Spain, Portugal and other countries, illustrating the wines of the world which compete against our products will also be procured for use, examination and comparison in this experimental cellar. As the funds of the State Viticultural Commission are not sufficient for conducting all of this work together with that in connection with the State Analyst, while at the same time providing for other necessities of the Board, the Chief Executive Officer, Mr. Wetmore, has agreed to suffer a suspension of compensation for his office as soon as the funds are found insufficient to meet all demands, so that the work may not be obstructed.



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CHARLES R. BUCKLAND.

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FRIDAY..... SEPTEMBER 11, 1885

Recognition.

Our friends in the Fresno Viticultural and Horticultural Association recognize the value of a journal like the MERCHANT guarding and advancing their interests, and give effect to their good wishes in a very practical way, as will be seen by the following resolution:

Official.

FRESNO, CAL., April 5, 1884.

Proprietor S. F. MERCHANT. — Dear Sir: Below is a copy of the minutes of the last meeting of the Fresno Viticultural and Horticultural Society that is of interest to yourself.

Resolved—That this Association recognize the SAN FRANCISCO MERCHANT as one of the best organs of the Viticultural and Horticultural Interests in the State, an exponent of their views and able advocate of their interests, and, moreover as a paper which has taken more than ordinary interest in the prosperity of Fresno county. We agree to give the publisher our liberal support while that journal pursues the course for which it has hitherto been distinguished.

Moreover, we suggest that manufacturers and dealers in agricultural implements and other merchandise who wish to call our attention to their goods, aid us and other Viticulturists in maintaining the SAN FRANCISCO MERCHANT on a sound footing, by giving it a large share of their advertising patronage.

Be it further resolved that the Fresno Viticultural and Horticultural Society tender its thanks to the SAN FRANCISCO MERCHANT for past favors.

C. F. RIGUS, SECRETARY.

This paper may be found on file at Geo. P. Rowell & Co's Newspaper Advertising Bureau (10 Spruce St.), where advertising contracts may be made for it in New York.

THE "MERCHANT."

In this issue we deem it not out of place to say a few words concerning our connection with the viticultural industry of California. It is several years since this field was first embraced by the MERCHANT, and its growing importance has induced us to devote more study and attention to its requirements. At the present time this journal is regarded as the organ of the viticulturists, embracing the branches of both raising and wine making. We endeavor to supply good readable matter that is valuable and instructive, and the increasing popularity of the MERCHANT shows that our efforts are appreciated. There is a vast field for our work in the future and we believe that the industry we represent will ultimately become the leading one of California. The present depression in the wine business will only be temporary and even now there are prospects of a brighter future. In order to assist in spreading an accurate statement of the viticulture of this State in its past, present and future relations, and with the hope of increasing our trade connections in the East, we publish an extra edition of 2,000 copies of this issue which will be sent to the Louisville Exposition for distribution by Mr. Pohndorff. We are convinced that this step will be appreciated by viticulturists and that they will show their approval by continued support.

HAWAIIAN TRADE OUTLOOK.

The outlook for trade with the Hawaiian Islands never was better. Reports from Honolulu, although they recognize the prevalence of "dull times," speak more hopefully of the future. Never before in the history of the Islands has there been so favorable a season for planters and stock raisers as the present one. Abundance of rain has fallen to guarantee a heavy crop on the dryest land by furnishing water for irrigation. At least 90,000 tons of sugar will be marketed from the Hawaiian Islands next season. The handling of this crop alone will employ a large carrying fleet of steam and sailing vessels in inter-island and ocean transportation, and as supplies for the shipping engaged in the Hawaiian trade are almost exclusively furnished from this Coast, it follows that considerable activity may be looked for among the mercantile houses directly interested in this business. The output of rice will likewise be considerable, and the shipment of bananas promises to increase also.

There is a growing feeling in favor of small farm settlement in the Hawaiian Islands, which is certain to lead to good results. Settlement in that country means increase of business with San Francisco, because it must be many years before local manufactures can be established, and for a time at least even fruits and other food supplies must be imported by the new comers.

Of course we infer that the new colonization policy of the Hawaiian Islands will be to encourage white immigration and settlement. An influx of Chinese coolies would not help to expand trade with the Islands in any shape or way. But public opinion, as expressed by the newspaper press of Honolulu, is decidedly against encouraging Mongolian immigration, and is most decidedly in favor of introducing white settlers and locating them on the Government land under the Homestead Law, or on private land by the segregation of large estates and their settlement by colonizing agencies or companies. The Pacific Commercial Advertiser has taken a very decided stand on this question, and in a recent issue it made an important announcement, which has a very direct bearing on the question of Chinese immigration to the United States. It appears that 200 Chinamen, having return passports, were desirous of shipping direct to Honolulu by the British steamship Mount Lebanon, the pioneer vessel of the Chinese Mexican Steamship line, which was to sail from Hongkong for Mexico via Honolulu, being due in the latter port about the 30th of August. This would have saved expense, but the Governor of Hongkong, acting under instructions from the Secretary of State for the Colonies, would not permit it. The British Government, recognizing the protests of the Hawaiian Government, has absolutely prohibited the direct shipment of Chinese from Hongkong to any portion of the Hawaiian Kingdom, no matter whether such intending immigrant happened to have been born under the British flag or was a native born subject of the Emperor of China.

It is probable that immigrants from the West of Scotland—Highland crofters—will be sent to Honolulu, as well as representatives of the English tenant farmer class. Portuguese immigration has been resumed on a modified scale. So great also is the demand for improved sugar machinery that skilled mechanics are being sent from the Coast in considerable numbers for the

Honolulu Iron Works, while orders for sugar-making machinery, boilers, etc., are being received in this city from Hawaii.

On the whole, therefore, the outlook for an improved Hawaiian trade is promising. This most nearly concerns us in San Francisco, seeing that competitive shipping and railroad points are cutting into our trade in other directions. We should at least monopolize the Hawaiian Islands trade.

THE VINTAGE OF 1885.

As the vintage progresses many important changes in the features outlined in recent predictions as to results are being noted. Early in the season there was great timidity on the part of wine makers in the matter of making contracts for the purchase of grapes, which arose from the fact that the vintage of last year was poor in quality, with respect to wines, in many parts of the State. Wine makers were not sufficiently careful in making contracts and paid more for grapes than they were worth, anticipating prices for their wines which were unwarranted by their prospective quality. The result of this carelessness was seen during the Spring when wines of poor quality which were first held at high prices were forced to be sold at what they were actually worth, thereby causing loss to the wine makers. It was also anticipated that the vintage this year would show a large increase over that of last year, but owing to several combined circumstances, including that of frost, blight of the bloom and some unaccounted-for infertility in some varieties of grapes, it is now known that the vintage will not exceed that of 1883. The quality however this year will generally be much above the average. A portion of the wines of this vintage will be required to blend with inferior stocks of last year in order to put them in a marketable condition, but it is not now anticipated that there will be any large stock of good choice wines of the vintage of 1884 and 1885 on hand at the time the vintage of 1886 commences, hence there is now a feeling of greater confidence among the wine makers and the prices that are being demanded for grapes are rapidly increasing. At first it was supposed that under the influence of the demoralized condition of the business good wine grapes of the best average qualities would not bring at the wineries more than fifteen dollars per ton. The facts, however, at the present time show that this has been a mistake. Choice qualities of grapes are now selling from twenty dollars a ton upwards in many places. There is, moreover, a marked improvement in the grading of qualities. Inferior varieties that have been for many years condemned by the wine makers, but which they have been compelled to use on account of the insufficiency of the supply, are now being graded low in prices. Producers should be reasonable in their demands and not expect for the inferior quality the price that is obtained by those who have better material to sell for wine making. Before the vintage closes the prices paid for wine grapes will have varied all the way from eight dollars to thirty dollars a ton. There will be an exceptional demand in the market for wines with deep color, and a high grade of alcoholic strength, provided that they have been well fermented. Grapes that are capable of producing such wines will be worth a good price and the wines made therefrom will probably bring, a year hence, a higher price than has yet been realized in our markets. Choice varieties of wine grapes such as

Riesling, Colombar, Golden Chasselas, are in demand, but are not in sufficient supply. Other varieties which produce wines of less value must necessarily bring a lower price.

FAIR PLAY WANTED.

To increase the consumption of California wines, and make them more popular and better known, we need fair play at the hands of the managers of hotels and restaurants. It is decidedly unfair that they should show a preference in favor of tea and coffee, imported and dutiable goods. But such is really the case. Tea and coffee are offered gratuitously with our meals in most of the hotels and restaurants of this State. The same opportunity should be offered for the consumption of wine, which, besides being equally as cheap as either tea or coffee, is a home production, and should therefore receive the more readily home support. If tea and coffee are charged for at five or ten cents a cup, then let California wines have the same chance, and be placed prominently on the bill of fare. It is a lamentable fact that there are few hotels or few restaurants where our wines can be obtained, even for seventy-five cents a bottle. They are kept in the background because they may interfere with the bar traffic and its enormous profits.

This desired change can be effected to a great extent by the viticulturists themselves. They are spread throughout the State, and are continually traveling from one section to another. Let them make a decided rule that, wherever they may be, they will continually ask for California wine, upbraid the man who does not keep it, and argue with the man who endeavors to charge too high a price. Wine is cheaper than milk, yet it is often more difficult to obtain. In some country districts this end we speak of has been attained through the persistent endeavors of the residents. Their example should be followed elsewhere. To assist winemakers in this direction, we will be pleased to receive, from any part of the State, the names of the hotels and restaurants, with their proprietors or managers, where wine-drinkers are placed on the same footing as consumers of tea and coffee, for publication in the MERCHANT. We propose to make a permanent list of all such who help the cause, and will let them see that their action is appreciated. It may be the means, moreover, of inducing others to follow their good example by drawing their attention to the list and the publicity given to the supporters of California viticulture. We shall be pleased to receive any names as soon as possible. They can be sent on a postal card with little trouble. Farther than this, if there be any "backsliders" who may recede from their original good intentions, we shall also desire to receive notification to that effect.

THE ACME FRUIT DRYER.

The latest fruit evaporator in the market is the "Acme Evaporator." Its principle is the use of steam heat and it is claimed that the fruit is not only quickly evaporated, but that it is of a perfectly clean appearance, retaining the color of the fruit. The juices and flavor are fully preserved; all moisture is immediately removed from each tray without passing through or over the remainder of the fruit that is being preserved. The machine is of convenient size, compact and simple in its arrangements and can be worked with a minimum amount of fuel. Catalogues and particulars of prices, according to size, can be obtained from Messrs. Batchelor & Wylie, of 37 Market Street, who are the sole agents for the Pacific Coast.

AN ADDRESS

To the Local Viticultural Inspectors.

A Review of the History of Grape Growing in California--The Past, The Present and the Future. --Advice and Suggestions.

OFFICE OF THE STATE VITICULTURAL COMMISSION,
SAN FRANCISCO, Sept. 8, 1885.

To the Local Resident Viticultural Inspectors:

Your attention is respectfully invited to the consideration of the present condition and immediate future prospects of the viticultural industries of California, with a view towards the development of an energetic and harmonious policy, and a unity of effort during the solution of questions of practical interest, which we must soon grapple with. As local officers of the State Viticultural Commission, you enjoy peculiar advantages in acquiring and disseminating information, and upon your intelligent activity our future success will, in a great measure, depend. The Commission will continue to look to you for assistance in perfecting the work begun on behalf of the State, the success of which depends upon co-operation, sincerity and hopeful confidence.

Within a very few years the revenues derived by producers, artisans, laborers, merchants and transportation agencies from viticulture, will realize at least twenty million dollars annually, if a practical, enterprising and progressive spirit shall continue to pervade our industrial activity. The influence of this result upon other industries, and especially upon values of real estate generally, will add still further tenfold to the wealth of the State. If this fact shall become realized fully by the whole people, we may reasonably demand that the sympathy and strong hand of the whole people shall be invoked to prevent the disappointment of our hopes. As we approach a crisis in our affairs, which will be brought about by a sudden increase in our productions, the greatest danger to be feared is want of harmony among ourselves and nervous excitability as to the future. There are no foreseen difficulties that can, under any probable circumstances, cause us more than a few years' disappointment; but our lives are not so long that we can afford to risk unnecessarily even such a short period of enjoyable prosperity. The light crops of the vintage this year have postponed for a time the precipitation of our most serious problems, and give us a period of repose during which we should waste no time in preparing to meet what the future demands of us. The lessons of our own experience and the rules governing viticultural success in other countries are now better understood than heretofore. It is for the purpose of stating succinctly the most important of the lessons we have learned, the problems of practice that we must immediately solve, and the prospects that we have before us, that this address is being made to you at this early day, so that whatever there may be of error in our conceptions may be

presented in time for investigation and correction. There is time and opportunity during this vintage to test much that rests only on theory, and to popularize a great deal that has been fully demonstrated.

There have been three distinct periods in the past growth of our industry, each of which has taught its own lessons.

The first of these periods marks the introduction of the vine by the Franciscan Missions, the cultivation and distribution of the "Mission" grape throughout the State, and experimentation with the fruit of this one variety, more or less successful, in producing various classes of wines and brandies. During this period many people came to California from the vine districts of Europe, bringing with them the enthusiasm that is always born of viticulture, and a desire to apply the experience gained in their native lands to the development of the industry here. A few of these new-comers had learned the lesson that soil, climate and skill were not the sole requisites of success. These, while temporarily making use of the *Mission* grape, began the importation and propagation of well-known varieties from many different districts of the Old World, knowing that the nature of the products might be varied by differences in the varieties of grapes cultivated. The greater number, however, rested upon the belief that the differences in qualities depended almost solely, if not entirely, upon the nature of the soil and the skill of the viticulturist. Following out this latter theory, the *Mission* vine was planted extensively in all parts of the State, from San Diego to Shasta, and from the sea coast to the mountain sides of the Sierra Nevada. Cellars were constructed, from which came so-called hocks, sauternes, clarets, burgundies, sherries, ports, angelicas and brandies—all made by varying methods from the fruit of this one variety. Mercantile houses sprang into existence, and industriously pushed these products upon the markets of the United States. A certain class of custom was reasonably well satisfied, and the industry was fairly prosperous until the demands of this class were more than supplied, and the effort was made to induce others to accept the wines and brandies of California as substitutes for the favorites of foreign origin. At this point the vine growers received a serious check. The verdict of the critical market was that California could not produce wines in competition with Europe; that our products had an earthy taste, and were "heavy," or "head-achy;" that our soils were too new, and that our wine makers were to blame also for want of experience. The consequence was that, to the extent that production exceeded the demand for inferior goods, there was over-production, the prices of wine fell to a very low figure, and many thousands of gallons were thrown away for want of favorable laws governing distillation. It is true that a part of the trouble grew out of bad fermentations and want of skill in caring for wines, careless distillation and insufficient storage facilities; but mainly the failure was directly traceable to an over-production of inferior goods. Some vineyards were uprooted, others were abandoned; but relief for the majority was obtained through a law of Congress providing for the storage of brandy in special bonded warehouses, where it was permitted to lie without payment of tax for a certain period, during which time sales could be made and the funds acquired for paying the internal revenue tax. The demand for the quality

of brandy which could be distilled from the excess of these inferior wines continued for some time to afford a profitable outlet, and the question of over-production being for the time solved, the industry again revived, marked in its new progress, however, by certain important changes, which characterized a new period of development.

The practical lessons taught by experience, during this first period, were:

First—That the products of the *Mission* grape could not enter into successful competition with the choice and favorite brands of foreign growth.

Second—That all the popular types of wines and brandies could not be made from one variety of grape.

Third—That different types and qualities could be produced on one piece of land by varying the selection of varieties planted.

Fourth—That it was in the power of the Government sometimes, by modifications of law, to change industrial depression into prosperity.

The second period of our viticultural development was marked by the rapid propagation of new varieties of vines, imported from Europe and a positive improvement in the general average quality of our vintages, attended by an increased demand and enlarged mercantile facilities. The foundations for this change were laid by a few earnest workers who, at no time, lost faith in the ultimate success of the industry and who believed that by cultivating new varieties the verdict that had been announced against our vintages, would be changed. The State owes a debt of gratitude to these men, which should never be forgotten, even though in succeeding periods their efforts shall have been eclipsed by more systematic experimentation and more distinguished victories. Many of these early workers are still prominent among us, honored as veterans, but often failing to receive the respect they deserve from the thousands of new experimenters, who are profiting by the material which they find without much effort to experiment with.

During this second period, hundreds of varieties, that had been imported, became planted with little popular knowledge of their respective values in other countries and with even less general information as to their adaptabilities for different climatic conditions and products and as to the varying methods by which they require to be pruned and trained. As soon as the original nurseries were broken up, the nomenclature became so seriously confounded, that at the time of the organization of the State Viticultural Commission there were only a few varieties that could be named in different sections without dispute. Owing to a general lack of information as to the real values of most of these vines and their different requirements in pruning and training, it became an almost universal custom to select only for extensive plantation those which yielded abundantly when pruned after the manner that had been customary in cultivating the old *Mission* stocks, viz: the short spur system on low branched heads. The only prominent exception to this rule was in the culture of the *Riesling* and a few other varieties from the Rhine to which our German-born citizens were attached; even these, however, were in danger of being sacrificed in many places until the simple but defective system of tying up a long fruit cane to a high stake was taught by those who were best informed. A few small plantations of *Chauché Noir*, *Chauché Gris* and *Trousseau* and a very few blocks

of *Malbeck* and the so-called *Crabb's Black Burgundy* were saved from the general abandonment of comparatively light bearers, which require long pruning; and in the older vineyards the original collections of many different varieties, from which selections had been made, had been either grafted over with popular stocks, or were lost to identification or classification. The results of these experiences were:

First—A considerable check in new plantations of the *Mission* variety, and in some cases a suppression of the same by grafting to other stocks.

Second—Quite extensive plantations of such fertile wine stocks as the *Zinfandel*, *Black Malvoisie* (so-called), *Burger* (so-called), *Golden Chasselas* (so-called), *Riesling* (so-called *Johannisberg*), *Franken Riesling* and *Chasselas Fontainebleau* or *Gutedel*; limited (but practically large for wine making in quantities to distinguish the products) areas of *Mataro*, *Grenache*, *Carignan*, *Charbono*, *Trousseau*, *Chauché Noir*, *Chauché gris*, *Malbeck*, *Orleans*, *Folle Blanche*, *Colombar* (so-called *Sauvignon vert*), *Blau Elba*, *Traminer*, *Crabb's Black Burgundy*, and such native American varieties as the *Catauba* and *Isabella*; and small scattering and confused collections of *Chasselas Rose*, *Barbaroux*, *Féher Szagos*, *Verdelho*, etc.

Third—Practically extensive plantations of the *Muscadel* raisin grape of Spain, under different names, with small parcels of the *Sultana* and *Corinth*.

Fourth—Successfully distributed vineyards, specially planted with fertile varieties of table grapes, the qualities of which, for transportation and beautiful appearance, required only to be seen to be known.

This was substantially the condition of vineyard plantations at the time of the organization of the State Viticultural Commission in 1880. The markets for our wine products had received a new impulse directly traceable to an improved quality in a portion that was offered, which was, however, little known outside of the trade until the writer of this, in 1878, after investigating the market in Eastern cities and studying that of Europe, in France and England especially, as a journalist, brought out forcibly to the public the fact that our producers were then able to compete against a portion of the imported goods (as was actually happening by a growing practice of jobbers, who were quietly selecting our best vintages for sale under foreign labels, and were openly selling our best white wines to German-Americans with whom there were the least foolish prejudices to overcome). It was also at that time conclusively shown that the great bulk of foreign importations were only common grades, which we could successfully compete against, while, with further effort, we might even attempt to rival more famous vintages. That far-seeing men in Europe were looking with some alarm at the possibilities of our industry, as yet not then publicly realized here, and were laying plans, through the proposed Reciprocity Treaty with France, to check our advance and competition, was also fully published by the writer, and the importance of fostering viticulture in the interest of the morals, as well as the health and prosperity of the people, was brought to the attention of both National and State legislators. Based on the information so acquired and presented, a resolution of the United States Senate was passed, with the active aid of Senator Sargent and Senator Jones of this Coast, calling upon the Secretary of State

to procure, through the Consular service, and publish information showing the true nature of our foreign wine and spirit trade; also a similar resolution, calling upon the Secretary of the Treasury to procure similar service from the Collectors of Customs. Following upon this, the agent of French producers, Mr. Leon Chotteau, who had triumphed in his efforts to awaken a desire for the proposed Reciprocity Treaty before the Chambers of Commerce and Boards of Trade in the leading cities of the United States, was met, on behalf not only of viticulture, but of other American industries, before the San Francisco Chamber of Commerce, the result of which was such a complete victory for our vine growers, that complimentary dispatches were wired to us from the silk manufacturers of New Jersey, saying: "All honor to California."

The publicity that was then given to the fact that our industry had not only achieved a practical commercial victory over a portion of our competition with Europe, but also that it had been found sufficiently strong to take the leading place in defeating an international scheme which threatened American industry in general, excited a large number of our citizens to engage in the further development of viticulture; and at this point began practically a third period of its growth.

The popular lessons that had been learned during the second period, just described, were as follows:

First—That different qualities of products may be produced on the same soil by changing the varieties of vines.

Second—That successful competition with the common and ordinary cheap importations of Europe could be maintained by means of some of the popular varieties of fertile vines, suitably planted and treated.

Third—That Summer irrigation generally throughout California was not only not requisite to successful growth, but also was even injurious to quality; that the necessity of irrigation for vineyards was limited to a few districts.

Fourth—That in the matter of white dry wines, especially those from the most popular Rhenish stocks, our products could compete even with superior grades of foreign goods, although in most cases falling below the quality of very high classed brands.

Fifth—That our dry red wines generally, of best quality, could be compared with foreign goods as good ordinary table wines, purer than the ordinary imported cargo wines, but inferior to the superior and fine grades of France, which were, however, practically little known to our commerce.

Sixth—That our dry red wines, or clarets, from such vines as the *Mission* and the so-called *Black Malvoisie*, while merchantable by reason of the excess of demand over supply, and cheap prices, were only temporarily tolerated by the trade.

Seventh—That our ports, while satisfying a limited market demand, were inferior to the finest foreign growths, and therefore could not enter into competition with them in the London market.

Eighth—That our sheries were practically in an experimental stage.

Ninth—That our brandies varied, as the wines, according to the variety of vine cultivated.

Tenth—That in the raisin industry we were succeeding, under given conditions of climate and soil, by cultivating the same varieties that were used for similar purposes in Europe.

Eleventh—That with increased mercan-

tile facilities a rapidly increasing Eastern market for fresh grapes might be developed.

Twelfth—That with increasing quality of products increased crops led to increased, and not decreased prices for grapes, wines and raisins.

Thirteenth—That with an assurance of ability to compete with foreign goods in the matter of even ordinary qualities, public interest was insured, and it was evident that the aid of National and State legislation might be depended upon to defend and foster viticulture, and that capital would lend an eager hand to new enterprise in this direction.

The third period in the development of our industry began with the organization of the State Viticultural Commission and the birth of a spirit of co-operative effort, which has to the present time characterized, more or less, the progress since 1880. Some of the new work has already borne fruit, from which lessons of experience can be drawn; but the greater part must be judged by the events of succeeding years.

During this time no important national legislation has occurred to affect or modify results; but the fruits of the resolutions passed in the winter of 1878-9 by the United States Senate have appeared. Prior to those resolutions it was the habit of our country to look upon our Consular service as the representing agency of the importing mercantile houses—notable exceptions to this rule only served to prove it. Since then the American Consul has been encouraged to believe that his chief duty is to procure and disseminate, through proper official channels, information that may be of service to the producers of his own country.

The State of California has, however, progressively developed laws intended to foster the complete development of our viticultural possibilities. Public opinion has sustained the Legislatures, and horticulturists have also sought and procured laws of a similar character, modeled generally after the plans originated by the vine-growers. Constructive legislation of this kind, in the interests of producers, was unknown in the State before the initiatory steps were taken in behalf of viticulture. During this period the writer of this address has had the honor to be placed in a position of continuous responsibility on behalf of the State, and can write from the standpoint of intimate familiarity with all that has happened in connection with our common interests. As there are many who have recently joined us in our work who are not familiar with this history, a reference to details known to others will not be out of place here.

The Act "for the promotion of the viticultural industries of the State," approved April 15th, 1880, was devised with the special object of organizing the vine growers of the State under a State Commission, composed of qualified and experienced men, for the purpose of utilizing all the important lessons of practical experience that had been acquired in the past for the benefit of the inexperienced, as well as also to provide concerted methods for acquiring new information for public use. The State was divided into seven viticultural districts; one Commissioner for each district and two for the State at large were appointed, the term of office being four years, so arranged that a portion of the number should be subject to change at the expiration of each two

successive years. The Board was required "to meet semi-annually to consult and to adopt such measures as may best promote the progress of the viticultural industries of the State;" to hold conventions, appoint lecturers, publish reports, collect and disseminate information, investigate vine diseases, etc. The Commissioners were to serve without compensation; the Secretary to receive a salary of \$100 per month.

This law was framed by Mr. Arpad Haraszthy and the writer of this statement and by us personally urged upon the consideration of the Legislature; in this we were powerfully supported by vine growers and wine merchants. We believed that it was the duty of the highest school in our State, the University, to participate in the proposed labors and therefore a special section was included relating to work at Berkeley and providing for experimental stations in other parts of the State. The idea of teaching the arts of fermentation and distillation at Berkeley appeared so novel to some legislators that we found in that section the source of our chief obstacles; but happily the law was passed without change and the wisdom of uniting the work of the University together with that of the representatives of our industries has never since been successfully challenged.

The first appropriation of State funds was small but it was sufficient to enable the Commission to make a survey of the condition of viticulture in California and to devise intelligently further plans for more effective work.

At that time facilities for acquiring and imparting valuable and accurate information were very limited. With the exception of a very few scattering books treating on viticultural questions in the possession of some of the most experienced producers, there was no collection of the literature of the industry accessible except that which the writer had made during his studies in Europe in 1878; this however comprised everything procurable in the English and French languages, together with a few works of German, Portuguese and Hungarian origin. It has since served as the means of procuring, more or less, complete collections for the use of the University and private parties, and, with knowledge of material since published, catalogues for orders for the Commission and for the State Library at Sacramento have been prepared.

Within the first year of our organization, it became apparent that our first laborious work would consist in systematizing the experimental operations of the State and in the endeavor to classify and identify the varieties of vines then cultivated. Although the Commission was composed mainly of men, who had had long experience in California, we all of us felt that the most experienced was merely a beginner and that without co-operation on the part of all interested rapid progress could not be made. Conventions of vine growers were held, local societies were organized, vine growers and wine makers were stimulated to exchange ideas and to inspect each other's productions, experimentation was encouraged, and in course of time the public spirit which now pervades the industry was developed; out of which the experience of many has been made attainable by each one who would profit by it.

In the beginning, a survey of the vineyards, costing much time and thousands of miles of travel, revealed some most important facts, chief among which were the following:

First—The nomenclature of vines was so seriously confused that it was practically impossible to determine without new classifications what was meant by the names *Pinot*, *Burgundy*, *Riesling*, *Chasselas*, etc. This was the more serious as the demands for material to plant new vineyards increased.

Second—Notwithstanding the large numbers of varieties that had been imported, there was not to be found in the State a single vineyard, or even a considerable part of any plantation, planted with the recognized varieties of the celebrated vine districts of the old world, which produce the highest types of Burgundy, Champagne, Bordeaux claret and sauterne, Portuguese port, Spanish sherry, or Madeira.

Third—The only notable collections of distinguished varieties, well known to the world and systematically in use here, were the white wine stocks of the Rhine, and relatively small areas in the red wine stocks of the southern coast and of the Departments of the Jura and the Charentes of France, besides the raisin and table grapes of Spain and other countries. The cognac varieties were here in small areas, but were not recognized for their value in distillation. Our reputation in the markets then depended upon reasonably large vintages from the varieties of the Rhine, small products from scattering lots of medium grade French vines, a fair product of the *Zinfandel* of Hungary, and nondescript mercantile blends of ordinary and inferior quality, the bulk of the varieties producing the same being unknown to fame in any part of the world. We had, however, challenged the respect of German-Americans with fair reproductions of the Rhenish types, reasonably satisfied the consumer of ordinary table clarets, temporized with the demand for ports and sheries, and had made several notable instances of progress in brandies. A comparatively few wine makers had followed the practice of carefully maturing well selected wines.

The verdict of the market was then that California could produce good white wines; that our *Zinfandel* was a fair ordinary and desirable wine, suited to the taste of a certain class of consumers; that our ports, sheries and brandies could not get into the London market, and that we could not make clarets to compete with the French. In raisins, the products of Mr. Blowers, Mr. Briggs and a few others were recognized as giving promise in that direction; and there was no doubt about the value of our shipping grapes. It had been demonstrated that the "earthy taste" formerly complained of, when the *Mission* grape alone was judged, was not necessarily the result of a new soil; General Naglee and others had grafted old *Mission* vines with *Charbono*, *Trousseau*, etc., and had effectually shown that the influence of the variety was felt not only upon the quality of the wine, but also upon the distillations. Mr. Rose, Mr. Shorb, Mr. West and others had shown that there was a vast difference between brandy distilled from pomace and that from wine. Mr. Rose had also shown that good light wines of Rhenish character could be produced in the southern as well as in the northern parts of the State. Messrs. Landsberger & Co., with whom Mr. Haraszthy was associated as wine maker at that time, had also shown that a superior quality of Champagne could be made after the French method of fermentation in the bottle. Mr. West from a small block of vines had produced a Frountignan Muscat even superior to the best French growth.

All of the superior qualities attained showed, however, that it was not sufficient to substitute imported foreign varieties for the old *Mission* stock, but that as we selected the varieties which produce certain types and qualities in Europe, so we most nearly approximated the reproduction of those types here. A careful examination of new vintages of small and varied lots of the known choicest varieties indicated that, if further plantations were made with neg-

lected noble varieties, we should soon be able to change the verdict of the market again, as we had already done in the case of white wines of Rhenish types, and that as soon as we tried, under favorable conditions, to reproduce Bordeaux clarets and Sauternes, Burgundies, Spanish sherries, Oporto ports and Cognac brandies by first planting the varieties known to produce those types in Europe, we might safely attempt to compete on fair terms in any market of the world, and challenge the criticism of the experts.

The tendency towards planting new vineyards increased so rapidly that even yet it has been impracticable to thoroughly reform the methods of practice. The stocks most needed were until recently so insufficiently supplied that most planters were forced to make the best selections they could from those that were within reach. It has taxed the energies of the Commission and of those who have co-operated with us to the utmost to advance the prospects of future vintages by improving the quality of the new plantings as much as possible.

The excitement of the short time during which about one hundred thousand acres of new vines has been added to the area of old vineyards, has carried a large number of planters away from the influence of the most experienced and competent advisers. Questions of real estate advantage and local pride have influenced many contrary to the cautions of the commissioners and others who have had the permanent welfare of viticulture at heart. We may, however, after reviewing what has been done in the last five years, say, with some positive degree of assurance, that, notwithstanding the mistakes of location and selection of varieties that have been made, a fair percentage of the new vineyards has been so planted that the industry is sure of being able to offer on the market, in the next few years, considerable quantities of really fine wines and an improved general average of ordinary stocks. The increased production, also, by forcing inferior qualities to a low price, is laying the foundation for rapid changes by means of grafting over old vines with the choice varieties that are now to be obtained.

Meanwhile, there has been much more than theory to sustain these hopes of improved vintages. Many public spirited producers have co-operated in the work of testing the vinous possibilities of the varieties that are known in celebrated European districts, many fresh importations of stocks having been made. We know already, as has been shown, notably in the exhibits of Mr. J. H. Drummond, of Glen Ellen, and of Mr. H. W. Crabb, of Oakville, at our annual State Conventions, that the wines of noble French, Spanish and Portuguese grapes will satisfy our expectations as the Rhenish varieties have done in the past. The *Trousseau* has been largely planted for the production of high-class wines of Oporto type, and considerable areas have been devoted to the systematic plantation of Cognac varieties for distillation. The larger proportion of the new vines are, however, destined to augment the production of agreeable and salutary light table wines, both white and red, with certain proportions intended for the natural improvement of coloring and tannic properties.

The new lessons of experience, especially during the present year, that we are learning are verifications of the teachings of the older vine-growing countries. The raisin-makers find here, as in Europe, that the locations for successful production are comparatively limited. As the ancients taught, *vitis amat colles*, and as the French have written, that the vine does not like to put its foot in water, so have we learned that our best vintages, with few exceptions, come from hillside, sloping and well-drained lands.

As the old world has taught that quantity and quality are also, with rare exceptions, inversely proportioned in the vineyard, especially for wine making, so we are learning by actual experience. As the old world has shown that vintages of successive years vary in quality, and that the years of comparative dryness favor quality, so we have striking illustrations of the same truths in the comparison of the crops of 1884 and 1885.

As in past times of depression, we have noticed that inferior quality of products

has precipitated a depression in our prosperity, while good qualities have been appreciated by the market, so we have seen a like result during the present year, together with a return of confidence as the vintage gives promise of improved quality.

The leading work of the Commission during the first four years of its organization has been to collect and circulate, as fully as possible, information concerning the most valuable varieties of vines, their adaptation to certain conditions of growth, and their special uses, while utilizing as much as possible for pressing present demands the best stocks attainable in the State.

Next, we have published treatises from the French, with full illustrations, giving instructions in the principles and practice of pruning and training, according to different methods, suited to different varieties.

These subjects, together with those relating to the choice of soils and cultivation, have been widely discussed, so that the public is reasonably well informed concerning the establishment and care of a vineyard. Large new and classified collections of varieties are being made by several growers, and continued practical experimentation is in progress. The situation of the vineyards is therefore vastly improved since 1880, and what has been done in a short time is worth now much more than the efforts have cost the State.

During the progress of the work referred to there has been also serious attention paid to vine diseases, with some practical advantage. The presence of the phylloxera was investigated and traced, so as to determine the extent of the dangers it menaced us with. We have followed it in its progress from year to year and published reports of its inroads, so as to warn those in danger in time to adopt all possible precautions. All the known and best approved methods of combating the pest have been practically tested, and the results, with working directions, have been published. The Government and local Departmental societies of France have expended millions of dollars in their efforts to save viticulture. Our State has had small chances to do more than trace the disease, follow the work in France, and promptly test the approved remedies. We have been able to make, however, a few important contributions to the common stock of knowledge through our original observations and experiments—viz.:

First—The demonstration, by resistant vines grafted thirty years ago, that the stock, grafted upon, does not lose its distinctive character from the influence of the graft—the proof of this being found at the vineyard of Mr. Lefranc, in Santa Clara county.

Second—The practical resistant properties of the native wild vines of California and Arizona, when planted under favorable conditions of soil and climate.

Third—The practicability of August grafting to supply the failures made in Spring, successful experiments made in 1883 being equally successful this year.

As to the knowledge of the adaptability of certain species and varieties of resistant vines to different soils in this State, we have made some certain and slow but sure progress. In this we are weak for want of more widely varied experimentations in different sections, which vine growers are urged to undertake without delay, as it is known that a vine is more or less resistant according to its conditions of vigorous and healthful growth. The details of this subject have been fully set forth in our published reports and in discussions at conventions.

During the Legislative session of 1880-1, a law conferring quarantine powers upon the Commission, enlarging its duties, creating the office of Chief Executive Viticultural Officer and providing for the appointment of inspectors, was passed. The work of horticultural quarantine also devolved upon this Board, but this was subsequently provided for by the creation of the Horticultural Commission. After a year's successful enforcement of quarantine rules, a test case was carried up in the Courts, which declared the provisions for quarantine unconstitutional. The Commission, however, had succeeded in establishing the custom of disinfection of cuttings and vines for new plantations, which has been fol-

lowed generally throughout the State ever since, so that many new districts are comparatively safe from the phylloxera at the present. The chief source of danger now lies in the Summer winds, which transport the winged form from infected vines to those not yet infected. The owners of healthy vines should look with fear mainly towards the prevailing Summer wind and seek to protect themselves, if possible, in that direction.

In the study of other diseases, for want of specially trained experts, we have made no great progress, and must rely mainly upon remedies set forth in foreign publications.

During the last year we have endeavored to concentrate public attention upon questions relating to the conversion of the fruit of the vine into the most satisfactory merchantable form. The raisin producers have made considerable advances in methods of curing and packing, mutually exchanging their experiences. Growers of shipping grapes have taught that extreme caution must be used in the use of Summer irrigation and improvements in packing for transportation. Wine-makers and distillers have had the most to learn, and necessarily suggest the greatest variety of problems.

With the aid of experienced men we have been able to formulate a few important rules, suited to our local wants, but the greater part of our work is yet subject to experimentation and demonstration. It has been known to the wine dealers much better than to the producers that imperfect fermentations are quite common, and give rise to subsequent diseases and difficulties in transportation. During the work of this year we are being aided in preparing to announce definite rules for practice by several of the most experienced wine-makers in different sections, and are specially indebted to Mr. H. W. Crabb, of Oakville, for facilities placed at our disposal. It is probable, therefore, that the vintage of 1885 will bring to us more useful lessons than any that has preceded. During the past year active discussions of principles governing fermentation and the care of wines have been provoked, so that there are now many observers aroused who will report their experiences before the vintage of 1886. Propositions for experimentation have been formulated and widely distributed both by publications and correspondence.

During this vintage it is hoped that producers will test to their satisfaction some of the rules that have been given already for general application, and inspectors especially are requested to report their local observations as soon as practicable. The most important rules for avoidance of the greater part of the defective fermentations appear to be, viz.:

First—Avoidance of deep masses of musts in tanks for red wines, regulating the work somewhat by the rule that the warmer the atmosphere and the sweeter the must the shallower should be the fermenting mass. Experiment should locally determine to what extent fermentations may be improved by varying the depth of the must fermenting, remembering that in Portugal the richest musts are successfully treated in vats so shallow that operatives are only knee-deep in them when treading.

Second—Holding the wine of certain grapes on the pomace for some time after violent fermentation is over, protecting the top from spoiling by air-tight covers, with vent tubes for the escape of an excess of carbonic acid gas, the ends of the tubes being immersed in water to prevent the introduction of air. Some special inventions of the Commission for simplifying the vent tube will be tested; also various kinds of simple covers for the tanks. Experiments should determine locally on what varieties of grapes this method will be an improvement, also the length of time for resting the wine on the pomace. It appears from past experiments that this plan will in many places improve the merchantable qualities of *Zinfandel*.

Third—For even fermentations, and to produce delicate results, it is counseled that in most, if not all cases, must for white wines should first be permitted to settle in open tanks, the scum removed, and the juice, as it begins to ferment, drawn off the sediment into pipes or puncheons, being kept as full as practicable during fermentation.

Fourth—In order to preserve new wines

from spring troubles, care should be taken to rack them off the lees before the warm spring weather commences. The chief source of disease in wine is the presence of fermentative matter; racking as soon as the wine clears, and again before spring, protecting the wine against exposures to the atmosphere during the operation as much as possible, are requisites of treatment, which are generally well known, but often neglected.

Fifth—During all operations of wine-making, the cleaning of all receptacles and machinery should be considered as a disinfecting work, rather than simple washing, in order that no germs of false ferments may be introduced into the wine. This care should be extended even to the boxes into which grapes are picked; they should be thoroughly cleaned (disinfected) each day. The crusher, dump cars, and all appliances which are touched by the grapes between the picking and the vats, should be kept absolutely free from any foulness.

Sixth—All decayed, sunburnt, mouldy and unripe grapes should be excluded when wine of fine quality is desired. Injured grapes are necessarily dangerous, by reason of the foul fermentations already begun in them.

Seventh—When grapes are sunburnt, or otherwise injured, it is less dangerous to make them into white wine than into red, if the juice is separated promptly from the pomace after crushing.

Eighth—Grapes for white wines should, with rare exceptions, be permitted to ripen as much as possible.

Ninth—Grapes for dry red wines should be picked promptly, when sufficiently ripened, the degree of sugar in the must that may be successfully fermented out varying with different varieties. Generally it should be aimed to obtain red wines with not less than 11 per cent. of alcoholic strength from musts of about 22 degrees Balling. The general opinion now favors 22 degrees Balling as the best condition for fermenting *Zinfandel*. The *Mataro* appears to need 24 degrees to develop its color and quality. Burgundies are generally best at 24 to 26 degrees. When musts for red wines are found too high in sugar, thorough fermentation may be promoted by mixture with other musts containing sufficiently less sugar to reduce them. Water, judiciously added, will favor fermentation when fresh musts are not to be had. Arrested fermentations may be revived by drawing the tanks upon fresh must. Frequent stirring of the musts before violent fermentation favors a thorough development of ferment, and the subsequent complete conversion of sugar. Stirring the musts during violent fermentation, where excessive heat is feared, assists in cooling the mass and in equalizing fermentation throughout. In some cases, at least, the addition of ten to twenty per cent. of white grapes assists the fermentation of red wines and increases the color; the application of this rule should be tested by various experiments. In many of the vintages of France the practice of mixing a certain proportion of white grapes with the red musts is regularly practiced to improve the quality of the wines.

Tenth—Wines intended for distillation should be fermented without the pomace. Pomace brandy should not be mixed with that distilled from wine.

Eleventh—The fermenting room should be protected against sudden and excessive changes of temperature. The temperature should be kept as even as practicable. A high degree of heat should be especially avoided, if possible; when unavoidable, the grapes should be suffered to rest over night before crushing, placed shallow in the tanks, and stirred often during the violent fermentation. When the temperature is cold, prompt fermentation may be started by the introduction of freshly fermenting must, which has been developed in a warm place, after adding which, frequent stirring in the tank will assist in provoking the fermentation. After fermentation has been well started, a falling temperature is not so much to be feared as a rapidly rising one.

Twelfth—For dry wines, intended for early consumption, the prime requisites are complete fermentation and a prompt clearing from all cloudiness. For such wines, considerations of the development of fine bouquets and extreme delicacy are not so

important as those pertaining to conditions favorable to safe transportability, absence of subsequent fermentation, brightness, deep color (if red), sufficient tannin to prevent alterations, good body and alcoholic strength. As the greater part of wines produced must necessarily come within the class intended for cheap and prompt sales and ordinary consumption, the attention of wine makers should be concentrated mainly on the production of the necessary qualities to suit the conditions of trade and transportation. Delicate wines, drawn from the pomace too early, deficient in tannin, color and alcoholic strength, will rarely suit the demands of merchants, who have quick sales to make and difficulties of transportation to encounter. Delicate wines may be frequently matured successfully if the producer has suitable cellar facilities for storage; where an even temperature may be preserved and skill be applied in racking and all other treatments.

Thirteenth—Suitable blending of wines having an abundance of tannin with those that are deficient, as soon as they become clear, will often be serviceable in protecting the latter from diseased Spring fermentations.

Fourteenth—Young dry wines should be carefully kept from the action of the atmosphere; the filling of the casks or tanks holding them should never be neglected. Care should be taken to see that the bungs are set in tightly. Many beginners spoil their wines by neglecting this precaution; some being even unacquainted with the use of tools for reaming out the bung holes, so as to permit the bungs to fit tightly. Simple instruction in the care of cooperage will save many beginners from disappointments.

The foregoing simple principles of well-known application are given at this time to aid new beginners, many of whom are making their first wines this year. Whenever such persons find that their wines are going wrong, they should immediately consult some experienced cellar man. The precise rules for treatments of different varieties of musts must be the growth of experience; comparative experimentation and exchange of observations will hasten the time for stating them.

If we can bring together for the common good all the valuable instruction that can be acquired from the experience of this and previous years, we may do much to prevent many going wrong during the next few years when new wineries spring into existence. The lessons that have been taught in the past clearly point to inferior products as the chief dangers to fear, and to improved quality as our rock of safety. Great capital must be sought, to complete the work of our present plantations, to provide wineries, cellars and mercantile facilities. The chief incentive to investment during the past five years was confidence in our ability to compete with foreign products, especially in the line of superior grades of ordinary wines of transportable merits. Local organizations in all parts of the State should be formed without delay to aid in the work of instructing the inexperienced. It would well repay such societies, if they should annually send out committees to gather items of practical information for local use, when necessary.

The collection of local statistics of plantations, showing the relative proportions and ages of different varieties, should not be neglected. The Commission needs all the aid you can render in this respect, so that early calculations can be made as to our necessities and reliable information be given for the benefit of commerce.

Discussions of principles of practice should be stimulated everywhere; but it is of the greatest importance that disputes should not degenerate into personal quarrels and unprofitable contests between different classes, engaged in our industry. There is no one so far advanced in his experience or study that he is not liable to error; pride of opinion and personal combativeness are not necessarily connected with public spirit. It is unfortunate that there have been lately some exhibitions of personal zeal, the benefits of which are partially destroyed by a quarrelsome tendency. After we have once successfully marketed a full vintage from our increased vineyards the luxury of personal disputes might be indulged in with less danger to the common cause than at present.

The Legislature last winter has materially added to the resources of the vine growers by granting new powers to the Commission, by creating the office of State Analyst and by more liberally appropriating funds for the work of the Commission and the University.

The Professor of Agriculture has now much more ample means at his disposal to carry out the work of instruction provided for by law. The Commission is authorized and enabled to extend its work in the direction of markets for our products. An additional sum for work under joint control of the Commission and the University is also provided, which will be ample to cover the expenses of making thorough analytical researches under the State Analyst, who is a professor at the University.

As there is no other joint work provided for by law, the funds cannot be used for anything but analytical purposes, unless the Regents unite with the Commission in creating such work. This the Regents have declined to do, and both institutions have thereby suffered some loss in resources. The question at issue between the Regents and the Commission has been imperfectly understood by the public. The Committee of this Commission has asked the Committee of the Regents to meet and consider what work shall be created under joint control, in addition to that of the State Analyst, and to agree upon an apportionment for the support of that office; they deny that any part of the appropriation should be applied to the work of the State Analyst, notwithstanding he is a Professor at the University, and refuse to consider any proposition except the entire expenditure of the appropriation at Berkeley under the management of the Professor of Agriculture. The Regents during the session of the last Legislature refused to ask for this special appropriation; this Commission did ask for it in the form obtained and the Legislature granted our request after striking out by a unanimous vote an item of like amount for a wine cellar at Berkeley. We do not and have not asked for the use of this entire sum at San Francisco, or anywhere, as some suppose, but have even offered propositions providing for the appropriation of eight thousand dollars of it upon the work under management of University professors, asking for only \$1,000 per annum, to assist in our practical experimentations.

The original suggestion that the experimental fermentations should be conducted in San Francisco having been abandoned for want of agreement, we have to fall back on our separate funds for such work, which will be conducted in connection with cellars in the country. The Regents, however, express a determination to prevent, if possible, the use of any part of the joint fund for the analytical work which the law places under the direction of the State Analyst, Professor Rising. It is because we cannot not only consent to give up all share in the control of an appropriation asked for by us, not asked for by the Regents, but also draw upon our separate funds for the support of the State Analyst—the only joint work actually provided for by law—that the question remains unsettled. The loss of the appropriation for experimental purposes will not, however, deprive Professor Hilgard of means to continue and enlarge his work, as he has been granted by the Legislature three thousand dollars more than he asked for to support his department, in his original estimates to the Board of Regents.

CHAS. A. WETMORE,
Chief Executive Viticultural Officer.

Mr. James De Fremery, Consul of the Netherlands in California, now on a visit to his native land, announces the marriage of his son, Mr. James Leon De Fremery, to Miss Wilhelmine Henriette Snermond, at Utrecht, on August 20th.

Among the visitors to the MERCHANT office during the last fortnight were: J. L. Watson of Glen Ellen; Chas. E. Shillaber of the Cordelia Wine Company; Chas. M. Cooke of Honolulu; F. Pohndorff, Spécial Viticultural Representative to the Louisville Exposition; F. Pohndorff, Jr., of Mission San Jose; J. H. Drummond of Glen Ellen.

Important Vine Stocks FOR SALE.

FOR SALE A LIMITED NUMBER OF CUTTINGS FROM CAREFULLY SELECTED Choice Wine Vines. The original stocks were imported from the most famous French Vineyards at great expense.

Cabernet Sauvignon, imported from Margaut, Lafitte and Chateau Brown—Cantenac. This vine produces the highest class Bordeaux wine (claret).

Cabernet Franc, from the above vineyard. A high grade claret variety.

Verdot and Verdot Colon, also renowned for Clarets.

St. Macaire, from the Palus District, Medoc. A strong, thrifty vine with great bearing powers, yielding a wine of intense color and of a true Claret type. Ripens early.

Price per M.....\$50 Price per 100..... \$6

Gros Mancin, from the same locality. A great bearer; the wine is of great color and quality. Ripens later than the St. Macaire.

Price per M.....\$50 Price per 100..... \$6

Franc Pinot, from Vongeoit and Beaune in the Bourgogne. Is a fair bearer and yields the most famous wines of Burgundy.

Pinot Pernand, from Beaune. A good bearer, giving a wine of a high class Burgundy character.

Camai Teinturier, from Beaune. A fine bearer, ripens as early as the Pinots; gives a wine of great color and of high value for blending.

Tannat, imported by Mr. Wetmore from Madiran. Is an extremely heavy bearer, producing a wine of fine color, great quality and tannin and possessing remarkable keeping powers.

Petite Sirrah, giving a wine of intense color and great quality. Imported from the Hermitage.

Semillon, from Yquem. A good bearer, ripens early and produces the world renowned Chateau Yquem.

Sauvignon, from Yquem. Enters into the best known wines of the Sauterne.

Also a limited number of cuttings of the Champague varieties—Pinot Blanc, Clairette Blanche, Petit Bouschet, Alicante Bouschet, Marsanne, Grosse Blauer, Meunier, Teinturier Male, Folle Blanche, Kadarkas Noir, and many other fancy table varieties.

Cuttings of ordinary wine varieties at from \$2 to \$3.50 per M. All cuttings from healthy vines and carefully packed. Length, 18 inches between terminal buds.

For the more choice varieties only early orders can be filled, and prices can be obtained on application.

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WINES & RAISINS.

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323 FRONT ST., SAN FRANCISCO.

Dr. Roesler's Work.

Under the direction of Professor Dr. L. Roesler at the Klosternburg High School of Pomology and Viticulture, analyses have been made for years, and are continued, of all kinds of wines from all countries. Dr. Roesler had the kindness to send to the MERCHANT the printed communications of the oenological experimental station up to June, 1885.

The value of these analyses, and all the investigations of the renowned establishment, to the grape growers of Austria-Hungary is evident. But at the same time the communications contain quite a mass of items which are of great value to viti-culturalists abroad. That in California the material furnished by the distinguished Austrian chemist Dr. Roesler, is the means of enlightenment in many respects is out of the question, for a good proportion of our grape growers are men of progress and research and capable of applying the advice to be extracted from what others do and how their doings agree with the results in the product of their own vineyards.

We may abstain from taking for guidance the composition of wines such as the southern European vineyards furnished, for we cannot but find that most of the old wines, both sweet and dry, from the hotter regions of Europe that come under the hands of the analytical chemist in Klosternburg are not in the shape as they leave the grower's or breeder's cellar, but are wines of commerce, that have experienced the treatment of the compounder. But we have a wealth of natural wines examined in Dr. Roesler's department, which in some respects are capable of comparison with our California produce in their composition. The interest of those wines is therefore considerable for us.

We shall note a few instances gleaned from the communications of Dr. Roesler, of the component parts also of wines of commerce in regard to saccharine, alcohol and free acid proportions, and also the proportion of vegetable water in such wines, as well as in raw wines.

In Hungarian sweet wines we find Tokay and Tokay Ausbruch (from over-ripe and partially dried grapes), in each of seven samples, near to 16 per cent of sugar, 13 per cent of alcohol, and not quite 6 per mille of free acids, and the natural water proportion is 71.90 per cent. In 15 samples of dry wines no saccharine, but about 0.66 per cent of glycerine was contained in three of them. The alcoholic proportion in the 15 wines was 10.5 per cent; in 13 of them the free acids averaged not quite 6 per mille. Water, about 88 per cent. In six red Hungarian dry wines the alcoholic strength averaged 11.89 per cent and the free acids not quite 6 per cent. Nine white dry Hungarian wines contained 9.6 per cent of alcohol and a little over 6 per mille of free acids; glycerine about $\frac{1}{2}$ per cent.

Fifteen Lower Austrian dry wines contained 9.4 per cent of alcohol and about 7 per cent of free acids; glycerine averaged $\frac{1}{2}$ per mille.

Thirteen Tyrol dry wines, chiefly whites, contained 9 per cent of alcohol and about 6.7 per mille of free acids, and in 12 samples, 11.8 per cent alcohol.

Six Southern Tyrol wines had an average of 11.77 per cent alcohol and not quite 7 per mille of free acids. Three red wines, 11.74 per cent alcohol and 6.5 per mille of free acids; above $\frac{1}{2}$ per mille of glycerine in these three, none in the preceding six samples.

Seventeen Dalmatine sweet wines contained 12.53 per cent alcohol and 5.33 per cent sugar.

Three wines from Herzegovina, 10.56 per cent of alcohol and 6.1 per mille of free acids; glycerine, 0.7 per mille.

Nine Greek wines, sweet, 9.4 sugar; $14\frac{1}{2}$ per cent alcohol, and not quite 6 per mille of free acids.

Marsala wines, commercial. About 19 per cent alcohol, about $4\frac{1}{2}$ per cent sugar, and 4.3 per mille of free acids.

Sherries from Jerez, commercially prepared. From 17 to 20 per cent alcohol; sugar varying from 2 to 21 per cent, free acids ranging from the low cypher of 2.5 to 0.81 per mille. The bulk of the wines, however, only a little above 4 per mille. Considerable glycerine was formed in all, even up to 0.6 per mille. Water proportion in the natural composition ranging from 65 to 70 per cent.

Ports from Portugal, commercially prepared. Alcohol, 18 to 22.55 per cent; sugar from 2.65 to 13.28 per cent; free acids, from 0.29 to 0.64 per cent, but most of the wines containing only between 4 and 5 per mille; glycerine, from 0.14 to 1.042 per cent.

Madeira, commercially prepared. Alcohol, 20 per cent; sugar, 0.39 to 3.88 per cent; free acids from 0.3 to 0.49 per cent.

Chambertin, Burgundy. Alcohol, 11 per cent; free acids, 0.59 per mille; water, 88.39 per cent.

Aramon 1882, red dry wine. Alcohol, 7.98 per cent; free acids, 0.695 per mille; water, 91.49.

Jacquez, 1882. Alcohol, 10.98 per cent; free acids, 0.78 per mille; glycerine, 0.67 per cent; water, 88.19 per cent.

Rhenish and Moselle wines. Old average: alcohol, 10.5 per cent; free acids, from 0.48 to 0.95 per mille.

Rieslings from the Rhine. Alcohol, 8.46 to 10.11 per cent; free acids, from 0.54 to 0.66 per mille.

Spanish Mediterranean wines, dry, except three, having yet about 0.3 per cent of sugar; alcohol average, 13 per cent; free acids, from 0.3 to 0.5 per mille, and one (Alicante) 0.8 per mille.

California Zinfandel. Alcohol, 9.45 per cent; free acids, 0.75 per mille; sugar, 0.10 per cent; glycerine, 0.376 per cent.

Italian dry wines. Alcohol, 10.1 to 14.5 per cent; average, 13.2 per cent; free acids, from 0.492 to 0.576 per mille; sugar and glycerine in proportions of 0.314 to 0.650 per cent.

Cyprus, sweet. From 8.47 to 22 per cent saccharine; alcohol, from 5.68 to 14.74 per cent; free acids from 0.530 to 1.035 per mille. F. POHNDORFF.

Some Practical Hints to the Wine Producers.

[Wynberg Times.]

The subjoined practical hints to wine producers have been drawn up by Baron Von Babo, the Colonial viticulturist, for general information:

It is evident that at present the production of wine in the Cape Colony is greater than the consumption of this article, and it is therefore necessary to produce and prepare a wine which can be exported to Europe, and which suits the taste of the European consumer. By applying some rules, which are absolutely necessary in the preparation of wine for the European market, it is quite possible to make of the splendid Cape grape a wine which will have a market in Europe.

The wine for the European market must

be the produce of the grape only; it must be a natural wine and no foreign substances must be added. By treating the wine with lime, salicylic acid, etc., it is rendered unfit for the European market. The color of the young wine must be greenish yellow, not brown or light red. The dark wine must be almost opaque, but dark red. The wine must be clear and not containing insoluble matter in suspension. The smell must be vinous, not fusil-oil-like. The taste must be harmonious, no unpleasant or particular harsh taste must be predominant, and it must be pure, not indicating any disease. At last a dry wine must be completely fermented, containing less than one per cent of grape sugar. The grapes for making good wine must be ripe. For making a clear and light wine the grapes must be fully ripe—that is to say, they must have entered into the state when the berries have the largest size, and when the bouquet-compounds and the taste of the particular kind of grape are developed. The grapes must not shrivel on the vines, because the bouquet-compounds leave to a great extent the berry after the state when it was ripe, and the amount of sugar increases, which again interferes with a thorough fermentation.

THE PRESSING OF GRAPES.

The present mode of pressing is most objectionable. The want of cleanliness in this manipulation is simply indescribable. It is to be wondered that, with this untidy treatment, there is still a drinkable wine produced. As the farmers are generally not in possession of presses and grape-mills, there is only one way of remedying the evil. The grapes are to be crushed in a narrow vessel by means of a wooden stamper of a conical shape and with suitable handle, to be worked by one man. The juice, which runs through the perforated bottom of the vessel, must pass through a sieve, and thus freed from husks and stalks, is transferred into a stuvvat (and not into an open vessel) for fermentation.

THE FERMENTATION OF LIGHT WINES IN STUVVATS.

The vats must be clean and must not have an acetous or mouldy smell. Each cask, after being emptied, must be cleaned and brushed with pure water only, and then sulphured. Only spoiled casks may be treated with lime, sulphuric acid, caustic soda, etc. During the sulphuring the casks must be kept well closed and afterwards they must be carefully kept closed.

With cleanliness of the casks goes hand in hand the cleanliness of the store. A wine store is not a receptacle of ever so many articles of doubtful composition, which exhale gases which are partly communicated to the wine and injure its character.

The fermenting stuvvats are filled up to two-thirds with the juice. The cask is closed with a "fermentation-bung" of peculiar construction. As this necessary improvement is totally wanting in the wine districts, it is desirable to cover the bung-hole with a small linen bag filled with clean sand and covering the cask at least four inches round the bung-hole, the bag must be two inches thick. The object of this arrangement is to let the carbonic acid formed during fermentation escape, but to filter all air that enters the cask, and to prevent the germs of acetous and other fermentations from getting into the fermenting liquid.

THE FERMENTATION OF DARK WINE.

The dark wine must ferment on the husks. The fermentation of dark wine ought to be conducted in peculiarly con-

structed fermenting tubs, in which the husks are kept under the surface of the liquid. But as these appliances are at present wanting, nothing can be done with regard to this under the circumstances except to immerse every day several times the "hat" and to use the ordinary open fermenting tubs. After six to eight days the wine is separated from the husks.

THE TREATMENT OF WINE IN THE FIRST YEAR.

When the fermentation is quite over, the young wine is drawn off and filled in clean casks. The casks must, under all circumstances, be kept quite full up to the bung-hole. The casks must be filled up every month. The wine used for filling up must be of the same kind.

After six to eight weeks the wine is for the first time drawn over into a clean cask; this is done again shortly before the second fermentation. Under no condition whatever is wine to be fined before the second fermentation, which must be quite over before the wine is fined. After the second fermentation the wine is drawn over again, and may now be fined once or twice. The best material for fining is gelatine, one-and-a-half ounces per leaguer. Dark wine is to be fined only with half this quantity, as it loses too much color. After each fining the wine must be drawn off from the sediment (but not before three weeks) again, and if it gets now any turbid again must be fined for a second time. After this second fining it will soon acquire perfect clearness, as the remaining particles will now settle down.

A wine prepared thus with necessary cleanliness will stand any sea-voyage.

FALSE WINE LABELS.

The MERCHANT has frequently drawn attention to the false labeling of wines as it is conducted in the Eastern States and more especially in New York. We know however that every facility is afforded to the unscrupulous wine dealer or retailer to conduct similar little profitable pecuniary ventures in this State. The wine and bottles can easily be obtained, "foreign" boxes can be manufactured and stamped with burning brands, and the foreign labels are all that is necessary to complete the little job. In San Francisco there is one, and probably more than one, printing establishment that will supply any recognized foreign label by the gross. We have before us the following samples which we can procure in "quantities to suit," viz: Chateau La Rose, 1875, 1 er cru Medoc, F. Hugnat & Co., Bordeaux; St. Julien, 1865, Puget Fils, Bordeaux; Chateau Lafitte, II. & Co., Grand Vin, Bordeaux; St. Julien, Bordeaux. The last one is modest and does not claim a forgery of a firm's initials. In California labels we can procure the following, among scores of others: Anaheim Wine, Cal.; California brandies of various hues and devices; Red Stars California Zinfandel, a most elaborate red and gold production; and a choice assortment of Zinfandels fit for the names of Dick, Tom or Harry as the makers. Every California wine maker should have his own individual label which in time will become a recognized and well established guarantee of the contents of the bottle or package. This would tend to prevent the sale of any chemical compounds of local manufacture to which the Anaheim, Napa or Sonoma labels could be attached. What the leading hotels of San Francisco would do if the foreign label industry were suppressed we do not know or care. It would be one good step towards inducing them to sell our good wines for what they are, the pure California product. There are probably also some dealers who engage in this little business and who like to reap a share of the harvest obtainable from the ignorant rich who pay for the labels without knowing the merits or demerits of the contents of the bottle. The strictest legislation should be enforced, against all such frauds, whether selling wholesale or retail. We have not commenced with this subject yet and a little careful study, examination and analysis may be the means of enabling us to give a somewhat undesirable publicity to any offenders that we can find.

IN THE VOLCANO.

Graphic Description of Walks Among
Seething Lava.A Sacramento Girl's Visit to Kilauea, the
Famous Volcano on the Island of Hawaii.

[Special Correspondence of the Record-Union.]

A party of us recently left Haiku on the Island of Maui, and after experiencing the usual delays in traveling, both by land and sea, we arrived at Hilo, on the Island of Hawaii, from which point parties start on their journey to the famous volcano Kilauea, the most noted volcano now in existence. Our first view of Hilo bay and Coconut Island was most enchanting. The land-locked bay, bordered by coconut trees laden with their brown fruit, the beautiful color of the water, the city of Hilo built on the graceful curves, with its fresh white houses and beautiful vegetation, together with the bright morning sun, all combined to make the scene an ever-to-be remembered one.

THE TRIP FROM HILO.

We dashed from Hilo on horseback into the forest—a veritable tropical jungle. On the ohia trees and the lohola green ferns hung from almost every limb, draping the trees with most graceful festoons. The icie vine, the birds' nests and ferns beneath the dense undergrowth combined to make a typical island wood. We rode through them for nearly seven miles, too rapidly to take in their full beauty, but coming back, when the setting sun was glancing through them, the picture was one of surprising beauty. After leaving the woods we came into an entirely different character of country; rough, up and down; vegetation luxuriant—a few trees and scattered ferns. Arrived at the Half-way House—a welcome sight—we rested an hour and ate our lunch. We remounted at 10 o'clock and proceeded on our sixteen-mile pilgrimage. The most ambitious of the party constituted the advance guard, and reached

THE VOLCANO HOUSE

One and a half hours before the others. Two or three miles of our journey was through the most magnificent pulu ferns, growing twelve or fifteen feet high, their waving plumes extending across the road. Passing through this belt of beauty, we soon came to good cantering ground, and we galloped until we reached the Volcano House, too tired to dismount without assistance. After drinking tea, almost to intoxication, we looked around to view our surroundings. The house consists of a living room, six sleeping rooms, dining and cook room. A grand fire-place gave out cheer and comfort, for at an altitude of 4,000 feet the tropic heat was moderated. Rocking-chairs, lounges and a book-case filled with papers, offered rest to our weary bodies.

LOOKING DOWN IN THE CRATER.

A great disappointment and surprise awaited me at the crater. Instead of a mountain sending forth fire, smoke and lava, I saw, looking from the house, a pit 500 feet deep, the floor of which is a frozen sea of lava. At the farther end of this floor could be seen three furnaces, surrounded by castle and cliffs. From such smoke issued an occasional gleam of light. This was all. No halching forth of a fiery flood from a mountain side; no shaking and trembling

and rending by unseen forces. A disappointment! We took a walk to the sulphur banks, stepping cautiously at first over the steam cracks. How could we be sure that the earth would not break up under our feet! Strange that familiarity with even the greatest forces in nature makes them lose their terror. To walk over ground broken up into islands, peninsulas, capes and every natural division by the cracks, from six inches to a foot across, from which the steam, hot, sulphurous, comes pouring, gives one the feeling that he is tempting the Fates. But sufficiently long acquaintance with even such phenomena makes it seem tame.

THE VOLCANO'S FIREWORKS DISPLAY

Returning to the house we had supper, after which we sat on the rim of the crater and watched Madam Pele (Goddess of Volcano) as she lit up the fireworks for the night. Gradually the furnace began to assume a lurid hue; bluish red light flashed upward, and occasionally flames appeared. The recent lava flow became visible as the night darkened. Tongues of fire were to be seen creeping along stealthily, advancing imperceptibly moving. All over the floor of the crater here and there were the bright lines of light plainly defining the course of the flow.

Sitting on the cliff, Professor Jenks, of Brown's University, entertained us with accounts of the eruptions of Vesuvius and the homes of the cliff dwellers, the latter suggested by the similarity of the cliffs surrounding Kilauea. How strange the life of those pre-historic people. How striking the contrast between the past, forever dead, and the intensely active present, for now we seemed to be in the midst of the creation itself. Nay, not seemed, but we were

STANDING IN GOD'S WORKSHOP.

Sitting there till we were reminded by the chillness of the air that we must "move on," we drank in deep draughts of peace and thankfulness, and our hearts gave out greater homage, worship and awe than ever before. Thousands of times in my life had I experienced the tenderness and love of the Creator—in every flower and child, in every unselfish act, in the forgiveness and mercy—but here there was no suggestion of aught but power, overwhelming, grand, awful.

We returned to the house physically exhausted by the day's exertions, but mentally too active to think of rest. We retired, but, in my case, not to sleep. About 10:30 the word was passed around that the "new lake" was "breaking up," upon which signal the company arose to witness from the veranda the brilliant illumination of the heavens, and to see

MADAME PELE IN HER MOST FIERY ROBE.

We finally resolved to sleep, but sleep takes flight with such resolves, and all night the extreme novelty of the surroundings made rest a fugitive. At last morning came, and with elastic spirits we gathered around the table. After breakfast we visited "The Devil's Kitchen." But he resented our too closely prying into the details of his culinary affairs, and if anyone ventured too far a puff of steam greeted and forced him to retreat.

We next wended our way to Kilauea-iki, an extinct crater two miles distant. Here the sides were clothed with verdure from summit to base, and on the floor the same thing was younger than elsewhere. On inquiry we found that down this path the lava had poured at a comparatively recent period, destroying everything in its course, and that nature had but recently begun to repair the damage.

PICNICING AMONG VOLCANOES.

Reminded that it was nearly noon, we returned to the house. Both going and coming we had feasted on ohelos, finding them growing in great abundance and beauty on every hand; we also gathered some strawberries for lunch. We read and rested the remainder of the afternoon, preparing ourselves for "descensus averni" in the evening. The volcano books occupied consider-

able of our attention, the thoughts of more than one person of note being inscribed therein.

Late in the afternoon a council of war was held, and 4:30 was decided upon as the best time to set out. We took a lunch, lanterns, wraps, staves and a guide, and a black, forbidding mass which characterized the active crater. Opposite us was what appeared a roadway, in which the vegeta-grotesque procession moved down the slope of Kilauea. We found it to be literally true; "descensus averni facile est," for we actually flew down the mountain side.

DOWN IN THE CRATER.

Many go down and are so exhausted as to be almost dead when they reach the top. A sad reminder of our possible fate was found in the monument located just before the lava field is reached, which marks the spot where a young Englishman fell, exhausted, and expired on his return from the fiery furnace. One faces it with a shudder, feeling that the "black camel" has no choice of places.

Reaching the lava, making good use of our staves, we trudged along over the uneven surface, up and down, over cracks from which steam issued, across sluggishly moving lava, past "Little Beggar," up to the cliff which overlooks the "New Lake." This we found perfectly dead, with scarcely a sign of activity. We decided to pay our respects to Hale Maunau (house of everlasting fire), and return to the "New Lake" later. A mile of hard tramping (dangerous it would be called anywhere else) brought us to the top of the fiery lake. A few moments' waiting and our most extravagant expectations were realized.

FOUNTAINS OF LIQUID LAVA

Began to play—ten, twenty, fifty feet high. A center fountain played continually all the evening. Others spit forth a stream and then subsided. Eight at one time sent up their fiery jets. Soon we saw great activity near the shore, and we concluded that nothing short of a nearer acquaintance would satisfy us. Taking our lunch hastily, we clambered down the most impossible places, and in ten minutes reached the very edge of the seething, molten mass. Fascinated by the dangers of the situation, we seemed riveted on the spot. Immense stones were thrown in, which intrusion Madame Pele resented by throwing up almost in our faces a fiery flood. On one occasion we were obliged to retreat, to escape being struck by the bits of fire. A stampede ensued, when the guide called a peremptory halt.

GRAND, MAGNIFICENT SPECTACLE.

The darkness now became intense, and the display of pyrotechnics correspondingly magnificent. The cliffs were lighted up with a lurid glare, showing them white in contrast with the stygian darkness of the heavens around, and the peculiar red color of the continually playing fountains. When could we go! The ever-changing conditions of the lake made the scene always new. Having spent two wonderful hours on the brink of this wonderful sea we turned our backs regretfully, filled with awe. Scaling the heights to the eyrie, we saw an illumination in the vicinity of the "New Lake," and hastened in that direction. The sky became brighter and brighter. Fearful lest the grandeur would have passed before we could reach it, we hastened on. We ascended, descended, scrambled, with the object in view, but seemingly to retreat on our approach. At last we found ourselves

BREATHLESS, OVERLOOKING

What had five minutes before been a tossing, surging mass, but now was fast cooling, becoming darker and darker until the heaving flood had ceased from its troubling and was soon as black as surrounding night. Disappointed that we had just missed this most glorious of sights, we turned our faces homeward. The "Old Lake" now lit up the heavens, and our cup of regret was full at the thought that we had not remained there. It was now 11 P. M. In a short time we reached the recent "flow," and spent some time making specimens, idols, vases, coin specimens, and I joyfully brought away a horse shoe partially covered with lava which I picked up near the "Old Lake." We reached the base of the final slope, and the heights which we must reach, seemed inaccessible, tired as we were.

We finally dropped down on the porch of the Volcano House,

ALMOST EXHAUSTED.

After three cups of hot tea and decorating the fire place with dripping garments, we retired, to get up in the morning to learn that the "New Lake" had given a fine exhibition about 12 o'clock. If we had only waited!

Sunday morning dawned rainy, wet, dull without, but bright and warm and comfortable within. The day was spent in conversing, reading and sleeping. It was continuously rainy, and out of doors offered no attraction. I had had all day a lingering hope that it would clear off, so that we might try our luck once more at the "New Lake."

SKIPPING OVER LAVA SEAS.

At 6 P. M. five of the party, moved by a common impulse, sought out the guide, and equipped as on the previous evening, commenced the descent. The way seemed much shorter than before. We found the trail over which we had passed the evening before covered in part by the hot lava. It had moved imperceptibly, but in the twenty-four hours since our last trip, it had slowly and surely crept across our path. It hissed and spluttered as the rain fell upon it. We chose a spot where the stream of lava was narrowest, and tripped across it quickly, I assure you. The crust being but one and a-half or two inches thick our shoes suffered from the near contact to the fiery flood beneath. We breathed easier when the

BURNING RIVER WAS PASSED,

Hastening on, so that the "New Lake" would not again display its charms unseen. We looked longingly toward the "Little Beggar," from which dense sulphurous streams of steam and smoke were issuing. The wind being in the wrong direction, we dare not venture near it, besides, we promised that we would not go to it, as one of the party had had such a narrow escape there two evenings previous. Reaching the "New Lake," we found it in action, so we settled down to await its "breaking up," giving ourselves until 11 o'clock.

OCCASIONAL FLASHES OF LIGHT

And a boiling in the corner nearest to us gave us hope that we might be so fortunate as to have our wishes fulfilled. We each selected a steam crack for warmth, and in perfect comfort awaited the "moving of the waters." Quoting poetry and singing beguiled the time, while we did not move our eyes from the place where the most activity was observable, for from this we gathered our hope. But all in an instant, at 9:10, all eyes were riveted on the spot most distant from us. "It's breaking up." "Oh! oh! oh! oh!"—at the rate of about 130 a minute.

The lava came towards us, from two directions, surrounding the floating islands, which tossed about in the lake, sometimes nearer the shore, sometimes far out at sea, at the mercy of the waves. The molten lava streamed round the black crust, forming numberless little islands, which one after another became submerged, and the whole lake was

ONE SHEET OF BUBBLING LAVA.

Could anything have been more awe-inspiring, unless perhaps, to have seen the waves seething and tossing against the islands and surrounding cliffs? This has often been seen; but we were satisfied. In five minutes from the time that the "breaking up" commenced, all was quiet, and the lake was fast darkening. We gazed until all was quiet, and Tom said, "That's all." Then we turned our faces toward the mountain. The rain had ceased, but a thick mist would have made it difficult perhaps, to retrace our steps, had we not been guided by the light which Tom had left at the foot of the slope.

Filled with thoughts of awe and mystery and power we bent our steps towards the goal, following a track of sulphur which Tom had defined "the trail." At the foot of the mountain we met a gentleman of the party that did not go, and who had felt some anxiety about us. He assisted us to make the ascent. Some of the party reached the top breathless, and gladly sank into chairs. From the house they had seen the grand illuminations, and were prepared to hear our very enthusiastic account of arrival

E. M. S.

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OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO.'S STR. SAN JUAN, SEPTEMBER 1, 1885.

TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
B & Jannison, New York	Williams, Dimona & Co	10 barrels Wine	474	\$ 165
B D & Co., New York	B Dreyfus & Co.	255 barrels Wine	11995	5400
S J Bros, New York	"	25 barrels Wine	1231	550
A R, New York	"	25 barrels Wine	1237	550
A Bros, Buffalo, New York	"	6 barrels Wine	297	150
L F M, College Point, N Y	Kohler & Van Bergen.	4 barrels Wine	99	65
"	"	2 octaves Brandy	52	110
A V Co., New York	Walter, Schilling & Co	70 barrels Wine	3411	1705
F Amanet, New York	"	15 barrels Wine	725	362
E R S, Augusta	"	3 barrels Brandy	118	295
"	"	4 octaves Brandy	81	202
C W Grish, New York	"	2 barrels Wine	96	72
Col R Chenery, Maine	J N Souther & Co	7 cases Brandy	5	52
"	"	1 case Wine	5	8
"	"	1 cask Wine	22	29
k & F, New York	Kohler & Frohling	10 barrels Wine	489	365
"	"	100 barrels Wine	4886	3190
T M, Boston	Dresel & Co	2 barrels Wine	97	48
F, in diamond, New York	S Lachman & Co.	25 barrels Wine	1154	460
M, in diamond, New York	"	25 barrels Wine	1159	462
B, in diamond, New York	"	25 barrels Wine	1186	474
G, in diamond, New York	"	10 barrels Wine	468	280
D, in diamond, New York	"	2 barrels Wine	93	74
T, in diamond, Philadelphia	"	1 barrel and 2 half barrels Wine	100	70
"	"	1/2 barrel Brandy	20	60
F, in diamond, New York	J Gundlach & Co	34 puncheons Wine	6173	2469
"	"	9 quarter casks Wine		
H, in diamond, Brooklyn	"	7 barrels Wine	335	224
"	"	2 barrels Brandy	87	199
B, in diamond, New York	"	10 barrels Wine	473	212
"	"	1 half barrel Brandy	25	62
Total amount of Wine			36205	\$17388
Total amount of Brandy			383	982

TO CENTRAL AMERICA.

W J R, San Jose de Guatemala	Engene de Sabla & Co	8 cases Whiskey	30	64
"	"	6 cases Zinfandel	20	24
"	"	4 cases Hook	100	129
G de B, Punta Arenas	Bingham & Pinto	3 barrels Wine	30	22
M F S J W, Acapulco	John T Wright	6 cases Wine	120	80
P N S, San Jose de Guatemala	Urruela & Urioste	4 1/2 barrels Wine	40	60
Q H, Champerico	"	1 package Brandy	360	190
S T, Acapulco	"	4 kegs Wine		
F C, San Jose de Guatemala	Jose Revello	40 kegs Wine	700	\$518
Total amount of Wine				6
Total amount of Brandy, 1 package				64
Total amount of Whiskey, 8 cases				

TO MEXICO.

E I, Acapulco	Redington & Co.	1 keg Sherry	20	37
G E H	Bandman, Nielsen & Co	1 barrel Claret	47	28
G E W	"	10 kegs Claret	150	90
"	"	5 kegs Sherry	75	90
Total amount of Wine			292	\$245

TO NEW YORK—Per Ship Semole.

W T C & Co, New York	Wm T Coleman & Co.	50 barrels Wine	3145	\$1292
G & M, New York	R Schmidt	21 puncheons Wine	38990	14621
Y D above S, in diamond, N Y	W Scheffter	277 packages Wine	4700	1763
"	"	100 barrels Wine		
Total amount of Wine			47135	\$17676

MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	TON.	GALLONS.	VALUE.
Apia	Queen of the Pacific	Schooner	50	\$ 45
Victoria	M. W. Tuft	Steamer	168	158
Victoria	George W. Elder	Steamer	344	176
China	City of Rio de Janeiro	Steamer	179	155
Japan	City of Rio de Janeiro	Steamer	305	227
Mexico	City of Topeka	Steamer	203	126
Honolulu	Mariposa	Steamer	409	505
Tahiti	Tahiti	Brig	924	427
Honolulu	Caibarien	Bark	77	92
Total			2659	\$1911
Total shipments by Panama steamers			37,580 gallons	\$19,203
Total shipments by other routes			49,794 "	19,587
Grand totals			87,374	38,790

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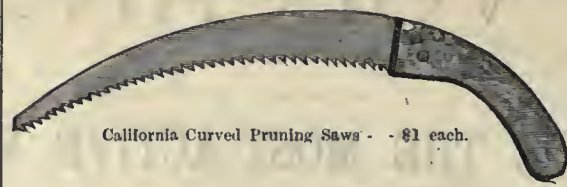
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California Curved Pruning Saws - \$1 each.

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20,000 Gallons MIXED.

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ASSETS, DEC. 31, 1884, - - - \$1,500,000

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WILLIAM J. DUTTON, Secretary,

ALPHEUS BULL, Vice-President,
E. W. CARPENTER, Assistant Secretary.

REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Monlton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and San Francisco, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country,

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the BERMEL Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

A Cheap Vineyard.

70 Acres--5 Miles from Gilroy.

60 ACRES IN VINES; 20,000 OLD MISSION, healthy and bearing well, could be easily grafted with new varieties; balance of vines, 1, 2, 3 and 4 years old, choice varieties. Splendid location, soil well adapted to grapes.

Also Winery, Distillery, farming implements and span of horses. Owner wants to go to France. Price, \$11,000.

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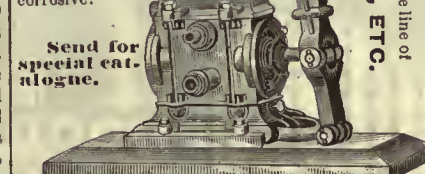
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This cut represents our Double Acting FORCE PUMP of great compactness, for use in wine cellars, for pumping from one tank into another. The cylinder is lined with copper, the piston rod with copper, the piston valve and valve seats are bronze, so that it will be seen all parts of the pump exposed to the action of wine are non-corrosive.



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WORTH'S IMPROVED PATENT Combined Toggle Lever AND SCREW PRESS.



I desire to call the attention of wine and Cider makers to my Improved Press. With this Press the movement of the follower is fast at the commencement, moving one and a half inches with one turn of the screw. The last turn of the screw moves the follower one-sixteenth of an inch. The follower has an up and down movement of 2 3/4 inches, with the double platform run on a railroad track. You can have two curbs, by which you can fill one while the other is under the press, thereby doing double the amount of work of any other press in the market. I also manufacture Horse Powers for all purposes, Engine Cutters, Plum Pitters Worth's System of Heating Dairies by hot water circulation. Send for circular. W. H. WORTH, Petaluma Foundry and Machine Works, Petaluma, Sonoma County, Cal.

Testimonials from I. DeTurk, Santa Rosa; J. B. J. Portal, San Jose; Ely T. Sheppard, Glen Ellen; Kate F. Warfield, Glen Ellen; J. H. Drummond, Glen Ellen; Joseph Walker, Windsor; John Harkelmann, Fulton; Wm. Pfeiffer, Gubersville can be had by applying for printed circulars.

Winery For Sale. THE BERMEL WINERY, And Three Acres of Land,

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Cellar under ground—capacity 40,000 gallons—capable of being enlarged to any capacity at small cost. Outfit complete to carry on the business. Dwelling and outhouse in good repair. Location most desirable in the State.

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A large quantity of the FINEST GRAPE LANDS in the County are now in the hands of this Company for sale.

A list of Russian River bottom lands and red gravelly hill lands SPECIALLY ADAPTED TO VITICULTURE, will be forwarded on application.

Buyers should visit Healdsburg before settling elsewhere.

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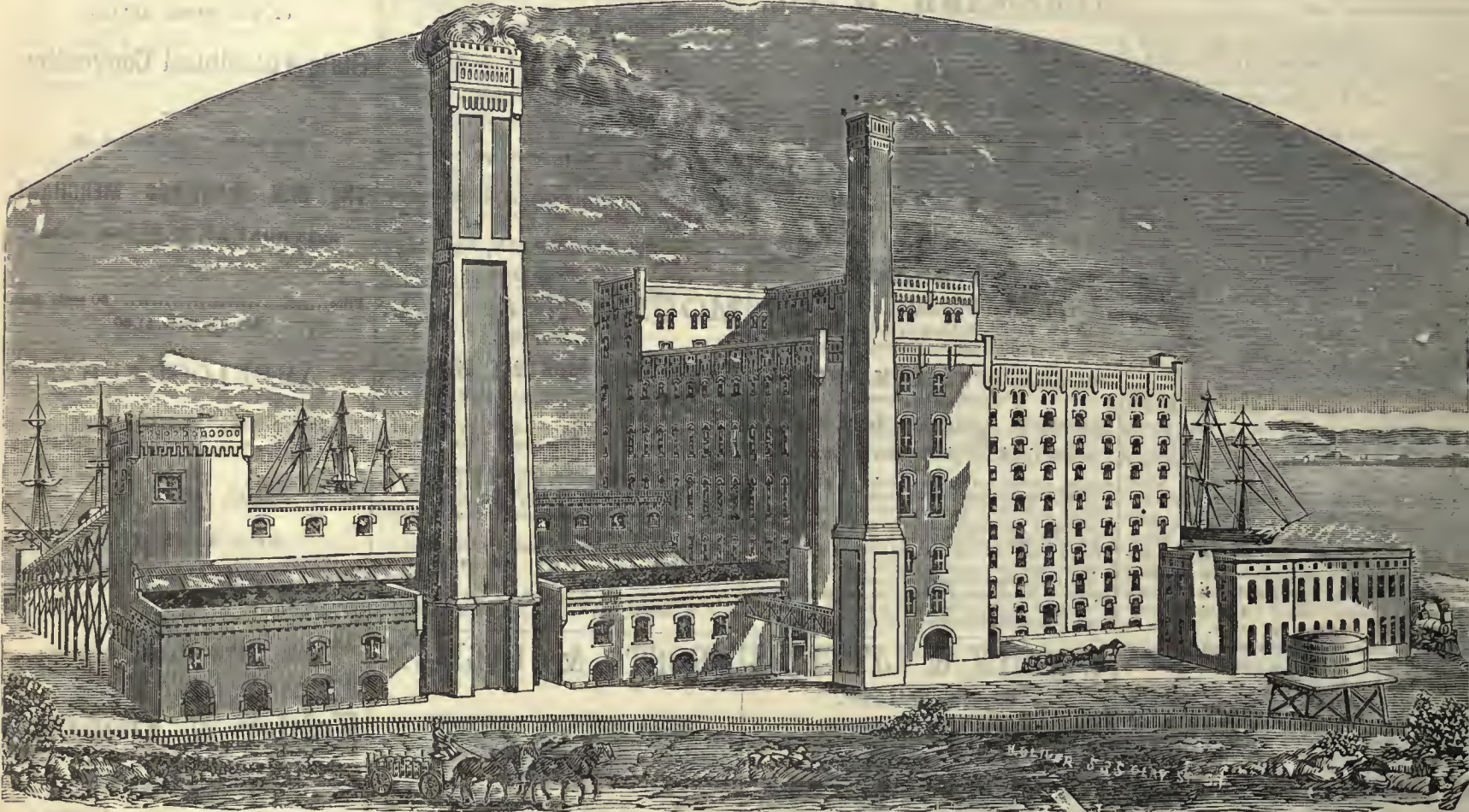
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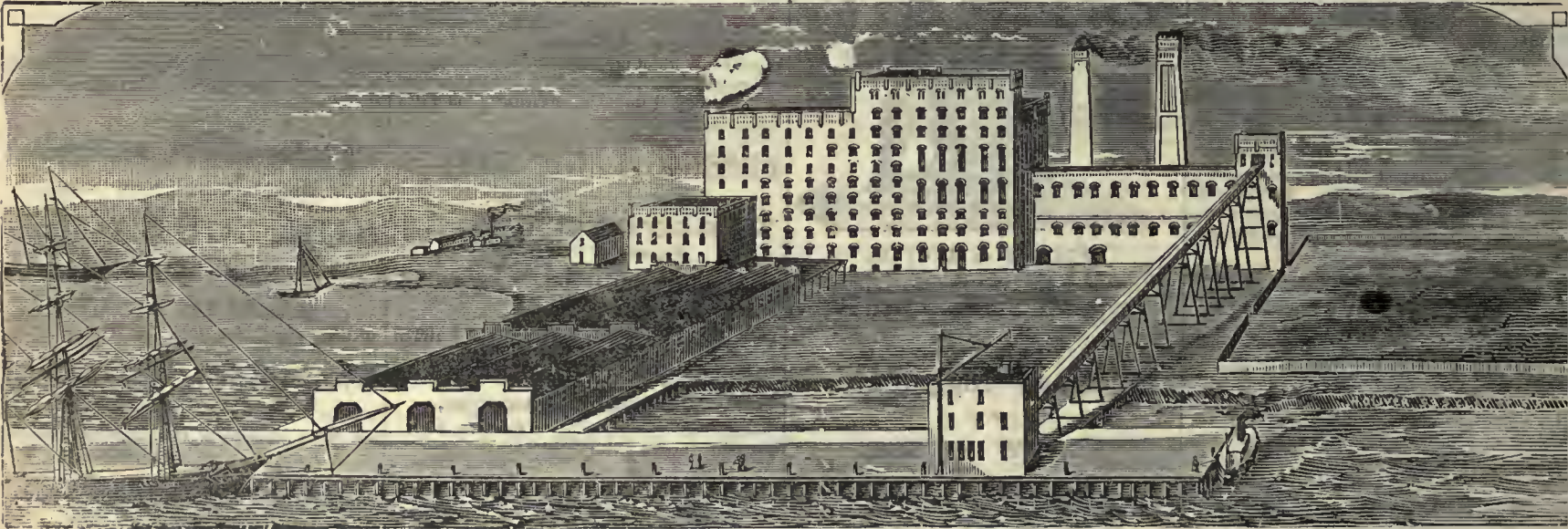
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West View of the New Refinery Building.



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- Pent CUBE SUGAR in barrels and bags
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- Extra POWDERED SUGAR in barrels
- Fine CRUSHED SUGAR in barrels
- Dry GRANULATED SUGAR in barrels
- Extra GRANULATED SUGAR in barrels

- GOLDEN C in barrels
- EXTRA C in barrels
- HALF BARREL, ¼ cent more
- BOXES, ½ cent more
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- Do. in half barrels.
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and Special Mention.

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— AT THE —

New Orleans Exposition

— TO THE —

ANTISELL PIANOS

— OF —

SAN FRANCISCO, CAL.

IT WILL INTEREST THE MUSICAL PUBLIC AND
persons interested in the purchase of Pianos to
read the following Jury's award and congratulation
of the United States Commissioners at the New Or-
leans Exposition to the T. M. Antisell Piano Company
of San Francisco, Cal:

THE WORLD'S INDUSTRIAL AND COTTON CENTEN-
NIAL EXPOSITION.

NEW ORLEANS, May 29, 1885.

MESSRS. T. M. ANTISELL PIANO CO.—GENTLE-
MEN: At the closing of the World's Industrial and
Cotton Centennial Exposition, allow us to congrat-
ulate you on your success in being awarded the highest
award of merit for your Pianos over all American and
foreign exhibitors and competitors. That a California
manufacturer should win the first prize for the Best
Piano in the World we consider well worthy of men-
tion by United States Commissioners of this Expon-
sition.

- | | |
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| Frank Bacon, Prost, Bd. U. S. Com., Kan. as, | Idaho, |
| George L. Shroup, " " " | Nebraska, |
| Robt. W. Furnas, " " " | Ohio, |
| John C. Keffer (acting), " " " | Dakota, |
| R. E. Flemming, United States Com'r, | Montana, |
| John S. Harris, " " " | Oregon, |
| E. W. Allen, " " " | Arizona, |
| F. M. Murphy, " " " | Michigan, |
| F. W. Noble, " " " | Florida, |
| W. H. Sebring, " " " | N. Carolina, |
| P. M. Wilson, " " " | New York, |
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| C. J. Barrow, " " " | Wyoming, |
| Henry Merroll, " " " | New Mexico |
| P. Langhammer, " " " | |

THE WORLD'S INDUSTRIAL AND
COTTON CENTENNIAL EXPO-
SITION. NEW ORLEANS.

JURY REPORT

Application No. Special.
Group Class

COMPETITION.

The undersigned jurors in the above entitled class
having carefully examined the exhibit made by the
ANTISELL PIANO COMPANY OF SAN FRANCISCO,
CAL., and all competing exhibits, concur in recom-
mending the award of a FIRST-CLASS MEDAL AND
DIPLOMA, THE HIGHEST AWARD OF MERIT FOR
PIANO EXHIBIT FOR STRENGTH, DURABILITY,
EXCELLENCE OF TONE, AND FOR THE SUPER-
IOR QUALITY OF LUMBER USED IN THE CON-
STRUCTION.

Dated this 27th day of May, 1885.

JAS. C. TRUMAN,
FRANK BACON,
GEO. L. SHROUP, } Jurors.

It will be observed that the President of the United
States Board of Commissioners, Governor Bacon of
Kansas, was also a member of the jury that gave the
Antisell piano award; also Colonel Truman of New
York and Colonel Shroup of Idaho. These gentlemen
not only signed our jury report, but also the special
mention. We thus give positive proof of our victory.
Four other awards are claimed by piano manufactur-
ers, but we have never seen any evidence of their pre-
miums, not even to the value of a leather medal—
simply their own assertion. False telegrams and pub-
lications from New York won't humbug Californians.
It won't do to say that the Antisell pianos were not
entered for exhibition or competition. No piano
could be got into the exhibition unless regularly en-
tered. New York manufacturers are trying to break
down our awards, as they don't like to see San Fran-
cisco carry off the honors.

T. M. Antisell Piano Co.

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COMMISSION MERCHANTS.

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HOCK, SAUTERNES, SHERRY AND MADEIRA, ALSO FOR DISTILLED
LIQUORS; BRANDY, WHISKY, GIN, Etc., Etc.
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FOR PRESERVING THE BRILLIANCY OF THE WINES.
-  **WINE CORRECTOR,**
FOR CORRECTING THE ROUGHNESS OF YOUNG WINES.
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—BY—

CHARLES A. WETMORE.

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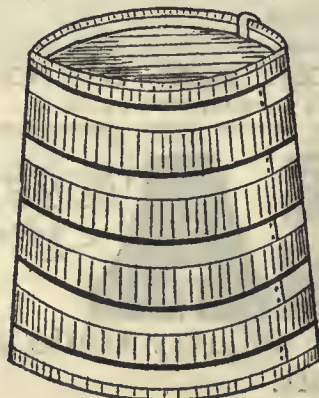
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Cabin plans on exhibition and Passage Tickets for sale at C. P. R. Company's General Offices, Room 74, corner Fourth and Townsend streets.

For freight apply to GEO. H. RICE, Freight Agent, at the Pacific Mail Steamship Company's Wharf, or at No. 202 Market street, Union Block.

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25c., 50c., 75c., \$1.25 a Can. and 6lb., Cans at \$4.50 per Can.

Never buy BUIACH in bulk, but in original cases, and see that they are sealed and covered by our trade mark, as success will not crown your efforts unless you use genuine BUIACH.

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THE SAN FRANCISCO MERCHANT.

THE ONLY VITICULTURAL PAPER IN THE STATE.

Devoted to Viticulture, Olive Culture, Sericulture and other Productions, Manufactures and Commerce of the Pacific Coast.

VOL. XIV, NO. 12.

SAN FRANCISCO, SEPTEMBER 25, 1885.

PRICE 15 CENTS.

THE LOUISVILLE EXPOSITION.

Correspondence from Mr. F. Pohndorff and Mr. C. B. Turrill.

Grapes, Raisins, Wines and Brandies Wanted for Exhibition and Sampling—The List of Subscriptions.

We are pleased to have received and to publish several communications from the Louisville Exposition. They should be read with interest as they point out clearly what must be done, and promptly, in order to aid those who are working for California at the Exposition. Without numerous samples of grapes, raisins, wines and brandies, our co-workers at the other end can effect but little. Mr. C. B. Turrill urges the raisin makers to make the most of their present opportunity to obtain a permanent and recognized footing in the Eastern markets. Mr. Pohndorff, immediately after his arrival at Louisville, reported what he would require for exhibition and for tasting. It now remains for the makers to comply with his requests and assist him in every possible particular. It is gratifying to learn of the courtesy extended to Mr. Pohndorff by Mr. Turrill who has kindly arranged, at the expense of the Railroad Company, for a separate and complete viticultural display where all such exhibits can be grouped together as a representative one from the State. This will be in addition to the exhibits that are classified by counties. All that now remains to be done is for the viticulturists to forward, as quickly as possible, such exhibits of grapes, raisins, wines and brandies as are specified by their representative.

Important to Raisin Makers.

EDITOR MERCHANT:—Referring to your letter of the 24th ultimo and your telegram of the 2nd inst., I am glad to know that I can expect Mr. Pohndorff here so soon. I think that I can already see that his visit will be productive of the greatest good to our viticultural interest. Now is the time to strike a telling blow for the wines and the raisins of our State. It is of the utmost importance that the people of the East should receive full and reliable information in regard to these articles.

Let our raisin makers now take active steps to place their goods upon the market. With the danger of importing cholera through the agency of foreign raisins, the opportunity is offered for California producers and merchants to unite and build up a reputation and a market for their products which will so establish them as to make it almost impossible for the foreign product to regain its vantage ground, providing of course that quality is always maintained. Now is the time to strike the blow.

Very respectfully, CHAS. B. TURRILL.
September 4, 1885.

CORRESPONDENCE FROM MR. POHNDORFF.

Fresh Grapes Wanted.

Mr. F. Pohndorff, the Viticultural Representative of California, arrived at the Louisville Exposition Building on 12th inst., and shortly afterwards sent the following few lines to the Secretary of the Committee:

DEAR SIR:—Mr. Turrill received me kindly and I shall co-operate with him harmoniously and effectually.

Will you cause people to send on fresh grapes, copiously if possible; if many growers will send only a few bunches people can taste as well as see them. Extra specimens may be sent in jars in a solution of salicylic acid to be preserved for future uses.

AT THE EXPOSITION.

LOUISVILLE, Ky., Sept. 13, 1885.

The Secretary Louisville Exposition Viticultural Committee, San Francisco: DEAR SIR—Yesterday I advised my arrival. There are some wines exhibited, mostly remnants from the previous use at New Orleans.

In the Sonoma county pyramid are limited numbers of Mr. J. H. Drummond, Mrs. Warfield, Mr. De Turk, and Messrs. Gundlach & Co.

On the Napa county stand are exhibits of the Napa Valley Wine Co.—about 15 dozen bottles; and two cases newly arrived of Matthews.

Of Sacramento and Placer counties there are some 20 bottles of various producers.

Of San Joaquin county there are some few bottles of Mr. George West.

Of Fresno county there are about 20 bottles of R. Barton, and some 1½ dozen of

Mr. Eisen (one dozen arrived broken), and I think some few bottles of other producers.

Of Santa Cruz county there are some exhibits, of Santa Clara also some few wines. From Southern California I saw nothing in the line of wines.

BRANDIES.

There are a few bottles of Mr. Eisen, Mr. Barton, I think also of Mr. West, and a bottle or two from Placer or Eldorado county. Since General Naglee allows me to use his 39 cases of brandy to give people to taste, these aged representants of California distillates can be liberally shown. But it would be well if other producers would send, if only a few bottles of their brandies for the purpose of illustrating that branch of our industry. Duplicates may be preserved for exhibits both here and at New Orleans later.

SAMPLES WANTED.

A complete list of what there is exhibited of wine I could not obtain yesterday, but shall send you later. In any case there is a sad lack of samples of wines, and the first thing to do is to move the gentlemen, who, by their contributions of money showed their interest in rendering our wines popular to send, if ever so few, specimens of their produce. By all means let Messrs. Kohler & Frohling, Mr. L. J. Rose and who else of the wine merchants proved their belief in the utility of speaking, writing and showing all about our wines and California viticulture, wherever the American public can be reached, send exhibits of wines. Among the growers there ought to be the feeling that it is of some consequence that their names and produce should become known. There is no reason to insist upon the view that what may be shown of a vintage which has been sold and is no more in their cellars, is improperly exhibited. Samples of preceding vintages show the type of what, and each year improvingly, the vineyards of the exhibitors produce. I am here to give explanations, and showing, as I intend to on given days, a few kinds of wines, should care to place each specimen in the right light, setting forth the merits of a raw pure wine, if only sound, of one region and the degree of perfection it reaches in its development and as it is in the bottle in the perfection the careful dealer or grower has allowed it to contract.

Thus, I beg that without delay, samples be sent by as many growers as possible.

GROUPING THE EXHIBITS.

Mr. Turrill is activity itself and certainly the best person to act for the Railroad Company, who serves the interest of the State at a great expense.

A display, where the wines will be grouped from all the counties, will be made at the expense of the Railroad Company, and for our convenience. Thus both county and by county, having all the exhibits of each joined, wines included, as they are arranged now, and the unity of the wine exhibits in a separate arrangement, where I shall chiefly be active, will exist. Mr. Turrill will, of course, let me utilize a portion of the wines entrusted to the Railroad Company. He is fully aware of the great usefulness of sampling practically what is of merit. But it ought to be understood that the stock for show must not run down too low, as the Railroad Company intends to move the exhibits in due season again to New Orleans. Thus, later on, I shall let you know which of the wines, of which I give the public to taste, need replenishing.

Thus far people are most attracted by the wood exhibits. They look at the fruit and preserves, also at the preserved grapes, and at the bottles of wine, etc. The assistants of Mr. Turrill tell me that constant inquiry had been made about the California wines, but of course the mere look at the bottles excites but poor interest. The act of sampling will not fail to make the California Department quite attractive, and afford the means desired of instructing people in what is going on in viticulture in California.

FRESH GRAPES.

From what I see, fresh grapes will be extremely useful. There have been prizes given to exhibitors of grapes of native growth. I ate five varieties of the foxy-tasting kinds. How will the clean, frank juice of our vinifera strike the public here, if we have the means of giving them some to taste?

You will therefore do well to write to different people to send fresh grapes for exhibits and let them send 10 pounds instead of a platefull, so as to have a surplus for giving people some to eat. Of the late varieties it will yet be time to send some. There is no object in sending choice newly introduced varieties. Both table and wine grapes, of the latter, right sweet ones, and among them plenty of Malvasia grapes, the

Mission grape which eats well, not excluded, will be welcome for the purpose of illustrating the difference between California grapes and the varieties indigenous to these regions. Yours truly,
F. POHNDORFF.

Since Mr. Pohndorff's departure wines have been sent to Louisville, both in glass and wood, by L. J. Rose, Kohler & Frohling, J. Gundlach & Co., H. W. Crabb, J. H. Drummond, Napa Valley Wine Co., Turel & Co. of San Jose, and others. Mr. Juan Gallegos of Mission San Jose has forwarded Californian olives and olive oil. There is still time for others to contribute. —[ED. MERCHANT.

We append a complete list of the subscriptions to the fund for defraying the expenses of Mr. Pohndorff, and would remind those who have not yet contributed that it is not too late to assist :

Napa Valley Wine Company.....	\$50 00
Leland Stanford, city.....	25 00
L. J. Rose, San Gabriel.....	25 00
Wm. T. Coleman & Co., city.....	25 00
Kohler & Frohling, ".....	25 00
J. De Barth Shorb, San Gabriel.....	25 00
Sonoma Valley Railroad.....	25 00
M. M. Estee, Napa.....	20 00
T. J. Ludwig, Santa Rosa.....	20 00
H. W. Crabb, Oakville.....	20 00
J. Gundlach & Co., city.....	20 00
Horatio P. Livermore, city.....	20 00
Geo. P. Noonan, Santa Rosa.....	20 00
Cloverdale Viticultural Club.....	15 00
Mrs. Clark, Glen Ellen.....	10 00
Mrs. K. F. Werfield, ".....	10 00
Mrs. Hood, ".....	10 00
Hon. W. McPherson Hill, ".....	10 00
J. L. Watson, ".....	10 00
Eli T. Sheppard, ".....	10 00
Guthrie & Macartney, ".....	10 00
I. de Turk, ".....	10 00
J. H. Drummond, ".....	10 00
Charles Kohler, ".....	10 00
Allen Box, ".....	10 00
George West, Stockton.....	10 00
Geo. L. Cowles, El Cajon.....	10 00
Ward, Heathcote & Co., city.....	10 00
Juan Gallegos, Mission San Jose.....	10 00
Balfour, Guthrie & Co., city.....	10 00
Bank of British Columbia, city.....	10 00
James A. Shaw, Glen Ellen.....	10 00
J. P. Hamilton, ".....	10 00
Sebastopol Winery.....	5 00
Christian Weire, Glen Ellen.....	5 00
F. Kerridge, ".....	5 00
Mr. Wagner, ".....	5 00
H. E. Boyes, Sonoma.....	5 00
Wm. S. Fisher, Napa.....	5 00
George Goodman, ".....	5 00
Dr. Strentzel, Martinez.....	5 00
D. C. Feeley, Patchin.....	5 00
Capt. J. Chamon de St. Hubert, San Jose.....	5 00
J. M. Wilcox, Napa.....	2 50
W. W. Thompson, ".....	2 50
Smith Brown, ".....	2 00
W. P. Plass, ".....	2 00
C. Johnson, ".....	1 00
Mrs. Herron, ".....	1 00
H. H. Knapp, ".....	1 00
W. K. Salmon, ".....	1 00
T. C. White, Fresno.....	1 00
Total to date.....	\$589 00

Mrs. Wm Hood's Los Guillicos brandy of 1883 has been found, by several competent men at the Louisville Exposition, to be of a quality that will compare favorably with any of French growth. This was notably pronounced so by Mr. Wood, a prominent whisky distiller.

Mr. Pohndorff writes that the climate at Louisville is abominably moist and warm. He says "really glorious is yet too feeble an expression for that incomparable air of California."

Mr. A. V. Lamotte of Glen Ellen, Sonoma county, has sent to the Louisville Exposition a case of fourteen-year-old Natural Angelica which is very fine.

The Latest.

Mr. Pohndorff, writing from Louisville on 17th inst., says that Californian viticultural matters are beginning to get more lively at the Exposition, as there is more knowledge of the fact that the wines are being sampled. Heretofore the big trees and woods were the general attraction, but now there is more attention paid to the wines. He desires that Mrs. Wm. Hood, Mrs. Warfield and Mr. I. De Turk will replenish their exhibits, as he has been obliged to break into the Sonoma county pyramid for tasting. Mr. Pohndorff will also be glad to receive special authorization from exhibitors to be permitted to use their wines and brandies for sampling. Mr. C. B. Turrill has, so far, kindly granted him permission to use some bottles at discretion; but, in the interest of all parties concerned, it would be better that express instructions be given to this effect.

The photographs of California scenery exhibited by Taber, and which secured the first premium at New Orleans, have attracted very great attention at Louisville. The collection has been materially enlarged and improved by the addition of a number of new scenes that were recently forwarded.

The only California olives and olive oil exhibited at Louisville are from Santa Barbara, and National City, San Diego county.

Mrs. Warfield, of Glen Ellen, has forwarded an additional exhibit of six dozen bottles of wine to Louisville.

WINES AND WINE DRINKERS TODAY.

The above is the title of a little illustrated work sent to the MERCHANT by H. B. Kirk & Co. of 1158 Broadway, New York. It is a treatise on the relative merits of wine and water with practical directions on the service, bottling, storage and tasting of wines. The first chapter deals with the present wine movement, showing the increase in the wine production and consumption of the United States since 1860, also the consumption of wines and other liquids in Paris in 1861. This is followed by chapters on the health and longevity of wine consumers; the benefit of wine for the sick; its use at the dining table; tasting, bottling and keeping wines; champagne; prohibition; the wines of Germany; mind and wine; good wine or bad water. A chapter on American wines shows the comparatively small part they play at present in commerce and their future possibilities, and statistics are given to show the production of domestic wines and importation of foreign wines since 1870. The author's idea has been to outline the present condition of our native and foreign wine trade and to deduce moral facts therefrom; in this he has certainly succeeded. The book is of a neat and attractive appearance, and can be obtained for the nominal sum of 25 cents at the address given above.

The MERCHANT thanks Mr. and Mrs. L. M. Holt of Glenwood, Riverside, for an invitation to the celebration of their silver wedding on the evening of Wednesday, October 7th. While regretting our inability to be present we will take pleasure in drinking their health in California wine on the evening in question, and wishing future success and prosperity not only to the House of Holt, but also to our excellent contemporary, the Riverside Press, and Horticulturist.

FOREIGN WINE IMPORTATIONS.

[Bradstreet's, September 12th.]

It has recently been asserted that as the manufacture of domestic wines in the United States increases, the importation of foreign wines into this country shows a proportionate decrease. A comparison of the importations for the years 1884 and 1885 shows that such is not the case, the latter year showing an increase of nearly 700,000 gallons of foreign wines imported into the United States as compared with 1884. The annual average importations of foreign wines extending over a period of ten years, as compiled by Bradstreet's, was 5,558,378 1/2 gallons of the value of \$5,825,176.60, consequently the foreign wine imports for the year ending June 30th last were nearly a million gallons below the average for the previous ten years but in value there was an excess of \$450,000 as compared with the average value of the imports extending over the same period. The imports for the years 1884 and 1885 stand thus:

Year.	Casks-gallons.	Value.
1885.....	3,419,475	\$2,241,636
1884.....	2,774,771	1,979,953

Year.	Bottles-gallons.	Value.
1885.....	1,169,695	\$4,033,386
1884.....	1,132,257	3,680,880

Increase in 1885. 37,438 \$352,506

Summarizing the above figures we get the following totals thus:

Year.	Total gallons imported.	Value.
1885.....	4,589,170	\$6,275,022
1884.....	3,907,028	5,660,833

Total increase 1885 682,142 \$614,189

In quantity our foreign wine imports for the year ending June 30th, 1885, are less than for any year in the previous decade except 1878, omitting the year 1884 when the imports were naturally small on account of the increased tariff that came into effect on March 3, 1883, which caused a rush of imports at the commencement of that year in order to save the extra duties. The value of the wines imported for the period under review is, however, in excess of that for any of the previous ten years excepting the period from 1881-1883.

The next point is to account for the increased value which is out of all proportion to the average for the previous decade. The following table gives the exact figures:

Period—	Cost per Gallon—	
Year ending June 30,	Wines in bulk. Wines in cases.	
1885.....	65 cents.	\$2 45
Ten years ending June 30, 1884.....	54 cents.	\$2 22

Increase..... 11 cents. 23 cts.

We thus find that there has been an increase of eleven cents in the value of each gallon of wine imported last year in bulk, as compared with the average for the previous ten years, and of twenty-three cents per gallon in the value of the case goods. This can be accounted for in two ways. The value of foreign wines has either increased in consequence of short crops abroad or the taste of Americans is being educated to such an extent that they now demand the higher grades of foreign wines. In any case these signs are not unpropitious for the American wine industry. If the French wines have increased in value then we have more prospects of introducing our wines, as their quality improves, into France, in order to supply their shortage. If Australian wine makers can supply the demands of France, surely Americans should be able to do so as their imported varieties of vines come into more general bearing. On the other hand if the increased value of our foreign wine imports is attributable to a demand for the better quality of the imported goods, then this shows that the consumption

of the pure wines of America, which is extending throughout the country, tends to a general improved palate and an evident intention not to be any longer imposed upon by the inferior class of very ordinary wines that have hitherto been imported. This should serve to stimulate American wine makers to renewed efforts in the production of first-class varieties, which, if they can only be sold under their own labels though they even cause a still further consumption of finer foreign qualities, the importation of which will be confined to the wealthy, will ensure a still greater demand for the higher grades of American wines, which can be sold cheaper than the imported wines.

The American Exhibition in London.

Arrangements are being entered into by which some of the best of the American exhibits from the World's Exposition in New Orleans, 1885-6, will be taken over for the opening of the American Exhibition in London in 1886. It is proposed to arrange the Entrance Hall so that the European visitor shall take leave of his native soil, and shall temporarily be in and commence his visit to North America from the harbor of New York, with the Bartholdi Statue of Liberty, and the striking features of the Eastern entry to the United States, around him. On leaving "New York harbor," the visitor's first excursion will be through the various States across the Continent to San Francisco—from the Atlantic to the Pacific seaboards. He will have the opportunity of inspecting collections illustrating the wealth and civilization of the entire country from east to west, from north to south. Early application should be made for space, and particulars of regulations for exhibitors can be obtained at this office.

Canned Goods.

An important invention for canning and preserving all food products is thus described by the London Grocer's Gazette:

The inventor states that the patent consists chiefly in covering one side of the tin plate with a film or coating of papier maché or prepared paper. This forms the inside of the can, and so absolutely prevents contact between the preserved food and the metal of the package. After a number of experiments, it has been found that food preserved in patent plates is much superior, in every way, to that preserved in ordinary tin. There is an entire absence of metallic flavor or smell, the food retaining perfectly its original flavor and freshness.

The inventor proposes to form a company for working this patent; the directorate to be composed of gentlemen who are largely interested in the sale of canned foods, and the shares to be allotted preferably to those who are similarly engaged.

THE QUAIL PEST.

This year's vintage will be materially reduced in some sections by the ravages of the quail which have done considerable damage to the grapes. We learn of many instances where it has been discovered in picking the fruit that a quarter or even half the bunch has been eaten by the birds. Besides the actual loss of property this necessitates extra care and time in picking the grapes which proportionately increases the expense of the vintage. If this new pest increases every year, which it assuredly will, there will be a necessity for an alteration in the game laws so that the destruction to grapes that occurs in the month before the open season commences may be obviated.

PHYLLOXERA.

Reports of Inspector Morse on the Bauer Remedy.

Mr. F. W. Morse, special inspector for the Viticultural Commission, has recently examined for the third time the diseased vines that have been treated experimentally with mercurial mixture about the roots; but his report contains nothing new to indicate any further prospect of success by this method of arresting the development of the phylloxera. In every plot examined the insect appears to flourish in the midst of soil impregnated with mercury. Healthy vines, planted in new soils, where the roots have developed sufficiently, show that, even when planted in holes in which mercury has been mixed, they may become infected.

BERKELEY, June 10, 1885.

Mr. C. A. Wetmore, Chief Executive Viticultural Officer—DEAR SIR: The following is a summary report upon the plan of work, and of results thus far obtained, of experiments with Dr. Bauer's mercurial remedy for the phylloxera.

The vineyard selected by the Commission for this experimental work is situated one mile east from Sonoma. The plot of old Mission vines adjoins the county road on the north and forms a block of vines nine rows wide and about thirty-five long. The soil is strong, dark loam, four to eight feet deep, shading gradually into a gravelly sub-soil; the central and western part is more sandy and gravelly. The vines are eight feet apart and are infected in such a manner that only a part of each small plot treated by the different methods is noticeably affected with the phylloxera.

Eighteen different plans of treatment were adopted, differing in the manner of applying or in amount of mixture applied. The first four consisted in applying one-half, one, two and four ounces of the mercury well mixed with soil and put in small basins dug about the trunk and roots of the vine. The basins were eight to twelve inches deep and eighteen to twenty-four in diameter.

The application was made on the 25th of March, 1885, and afterwards examined May 12th and June 11th. No positive effect of the remedy was noticeable—phylloxera usually abundant—occasionally some dead insects were found. The next two treatments have, in addition to the basins, a furrow run in each direction between the vines and in these are scattered one-half ounce and one ounce per vine for the different treatments, the same amount being used in the basins about the vine. No noticeable effect on the insect.

The next two treatments received one-half and one ounce of mixture in furrows plowed near the vine on both sides, and one-half ounce of the mixture extra close to the vine.

The two following were similar applications with the addition of a cross furrow in one direction between the vines.

Then followed two treatments with double furrows on both sides of the vine and in two directions; one-half and one ounce of mixture was applied in the furrows and one-half extra strewn on the surface of the ground about the vine.

A similar double furrow treatment followed in the next two experiments with the addition of one furrow between vines in one direction; two and four ounces respectively were applied. There was no noticeable effect from the last three treatments.

The two remaining treatments consisted in applying the mixture in crow-bar holes six inches from the vine and twenty-four inches deep, the mixture of soil and mercury extending from the surface to the bottom of the hole. The usual amount of one-half and one ounce per vine was applied. There was found upon examination of one of the vines, a small spot or colony of insects with a large number of dead and injured individuals apparently receiving a poisonous dose from the same spot on the root; otherwise there was no apparent effect.

In addition to the above treatments two rows of vines were taken up and reset with Chasselas and Zinfandel rooted cuttings and surrounded in planting by one-half and one ounce of the mercury mixture applied in the usual manner. The row receiving the half-ounce treatment was examined in June and found to be quite well supplied with small rootlets, the lowest of which were quite near the old stump and supporting quite a number of phylloxera which had formed nodosities on the finest roots.

Upon Mr. Dresel's vineyard, where the mixture was also applied, the soil is shallower and the vines younger, two treatments were made; in one an ounce of the mixture was applied in a basin about the vine and an ounce spread broadcast; the other received an ounce in a basin about the vine and an ounce in cross furrows between the vines. No noticeable effect came from either treatment.

NOTES ON TREATMENTS BY PRIVATE INDIVIDUALS.

Mr. H. Hagen.—Seven Zinfandel vines in a row, two years from the cuttings; cuttings were placed in holes six inches by sixteen inches with the mixture. The vines were originally six feet apart, now eight feet. Five vines out of the seven were infected, two badly. The amount of the mixture used was not known.

Also some Zinfandels three years old, on new ground, surrounding vines infected and some killed; treated with one ounce of the mixture last year. They produced a good growth last year but poor this year—phylloxera abundant.

Messrs. Kohler & Frohling.—Two old Mission vines were treated last year; one now shows phylloxera on small roots; the other showed no phylloxera. The bark on both was old and rotten.

Mr. Dresel.—He has some vines which were treated two years ago; phylloxera present in large numbers.

Mr. Perkins.—Treated an old Tokay vine last March with three-fourths of an ounce of the mixture—phylloxera still abundant. Also treated a cutting over an old stock—no phylloxera found and no small rootlets.

Mr. Haraszthy.—Has treated old vines with one ounce treatment last Spring—phylloxera quite abundant.

Respectfully, F. W. MORSE.

BERKELEY, July 23, 1885.

Mr. C. A. Wetmore, Chief Executive Viticultural Officer—DEAR SIR: On the 22nd of July I visited the experimental vineyard at your request and examined the vines now under treatment with Dr. Bauer's mercurial remedy. I found no appreciable change worthy of note under any of the different treatments; only a slight indication of a few dying in very small spots of the roots can be noticed.

The vines planted for testing the preventive value of the mercury remedy are withering and dying one by one, and their appearance seems to indicate that the decay

is caused by the numerous phylloxera which infest the roots.

The vines which were intended for infection were treated at a depth of eight to ten inches with small infected roots at this time; they appear to be in good condition.

Respectfully, F. W. MORSE.

BERKELEY, September 15, 1885.

Mr. C. A. Wetmore, Chief Executive Viticultural Officer—DEAR SIR: At your request I have visited the vineyards, used by the Commission for experimental purposes, and, on September 11th, examined the vines which were treated some time ago with Dr. Bauer's mercurial remedy. Typical vines of medium growth, from each of the plants which received the most thorough treatment, were examined but in none of them was I able to detect any decided effect or change which could be attributed to the remedy. Upon the roots of some of the vines receiving the "four-ounce treatment" a few small spots were noticeable where the insects were considerably browned and some dead, caused probably by the actual contact of a stronger portion of the earth and mercury mixture. Otherwise the insects appeared to be in their normal condition and infecting the younger and healthier roots in large numbers.

PREVENTIVE TREATMENT.

Only one vine in each of the rows which were planted to test the preventive value of the remedy is now alive, and upon this the foliage is withering and drying up. The root system of the vines has been well developed but at present is badly infected even to the surface of the ground. The condition of soil, moisture, etc., is quite favorable to the growth of the vines.

INFECTION TREATMENT.

At the last visit, about two months ago, the healthy rooted vines which were planted to test the possibility of infecting vines planted in the soil and mercury mixture were treated, at a depth of eight to ten inches, with small fragments of infected roots. Only one of these five vines thus treated was found at this time to be badly infected, the others were perfectly free from the insect. The infected one alone, however, had formed a generous supply of roots from the surface of the ground downward; the others had formed roots only at the lower end of the cutting, some twelve to fourteen inches deep, thus increasing the difficulty of infection.

The remedy has also been applied quite extensively by a few individual vineyardists in the same locality with results similar to those obtained by our own experiments. Among these I found cuttings and rooted vines which were planted in vineyards formerly devastated by the phylloxera and which are now withering and dying and badly infected; vines three to five years old are still badly infected.

Respectfully, F. W. MORSE.

From Honolulu we hear that the coming sugar crop will be the largest ever cut on the Islands, so much so that it is feared on some plantations the cane will not all be cut. The crop of the Hawaiian Commercial and Sugar Company will be an immense one.

The well-known San Jose firm of Turel & Co. are making this year superior qualities of Burgundy, Zinfandel, Mataro and Cabernet in red wines; also of Folle Blanche, Colombar, Semillon and Sauvignon in white wines.

SANTA CLARA COUNTY.

Mr. J. B. J. Portal of San Jose, who called at the MERCHANT office this week, tells us that he has already finished his wine making, owing to the general shortness of the crop in Santa Clara valley, which he with others has experienced. What is lacking in quantity however will be made up for in quality as the grapes of this year's vintage are far superior to those of any preceding year. Mr. Portal reports the following saccharine per centage in different varieties: Trousseau 32 per cent; Zinfandel 28 per cent; Cabernet 25 per cent; Mataro and Burger 24 per cent. The superior quality of this year's vintage was only fully realized within the past two or three weeks when the saccharine contents of the grapes increased with extraordinary rapidity on account of the unusually fine weather which favored maturity. Mr. Portal, who has recently erected a splendid house on his vineyard, purposes shortly to leave for France with the hopes of obtaining further points and information regarding vines and wine making, as he is not one of the Californian viticulturists who considers that he knows everything. Mr. Portal will readily believe that our remarks are not intended as derogatory of himself or of Santa Clara county, notwithstanding the assertions made by an insignificant little sheet published in San Jose, to the effect that the MERCHANT never mentions Santa Clara county but for the sake of running it down.

Condensed Must.

C. A. Wetmore, Esq., Chief Executive Viticultural Officer, San Francisco, Cal.—DEAR SIR: I send to you to-day three five gallon kegs of condensed grape must. The keg marked "F" contains the must of the Feher Szagos grape, that marked "C" contains the must of the Chasselas grape, and that marked "M" contains the must of the Mission. The Feher Szagos must showed 22 per cent of sugar before and 71 per cent of sugar after condensing—while yet warm. The Chasselas showed 23 per cent before and 72 per cent after condensing, and the Mission showed 24 per cent before and 70 per cent after condensing. I see by the MERCHANT that the Viticultural Commission has made arrangements to make experiments in fermenting different varieties of grapes at Mr. Crabb's place at Oakville. Will you send the condensed must there or retain it in San Francisco to experiment on? I would be pleased to hear from you from time to time how your experiment with the condensed must progress.

Yours respectfully, THOS. D. CONE.
Folsom, Cal., September 21, 1885.

The *S. F. Chronicle* proposes to publish shortly a series of letters from Mr. Albert Suthliffe on wine and raisin making, grapes, prunes, olives and olive oil, orange and lemon culture. The information will be derived from a careful study of the branches of agricultural industry as practised in European countries, the *Chronicle* representative having been instructed to visit the localities where their cultivation and manufacture have been carried on extensively and successfully for years. This should be the means of imparting valuable information to Californians who are engaged in a similar business, though of course there are certain peculiarities pertaining to the soil and climate of California with respect to adaptability and culture of different fruits and varieties that can only be learned by local and practical experience.

AN EXTRAORDINARY CROP OF RAISIN GRAPES.

A sample lot of the Moscatel raisin variety of grapes was received at the office of the Commission during the present week from Mr. George A. Cowles of El Cajon valley, San Diego county. These grapes were produced from vines that had never been irrigated and were especially remarkable on account of the large size of the berries and bunches, the sweetness of the juice and the immense crop that was obtained by following the method of pruning that Mr. Cowles has been experimenting with. Under the influence of the ample rainfall that has occurred during the last two seasons in that county these vines have produced abnormally to such a degree that the sample lot that was received at the Commission is reported to be a fair sample taken from a crop that was measured accurately, so as to determine that it amounted to sixteen and one-fourth tons to the acre. Of course it is not pretended that this immense crop is anything to be depended upon for permanency, but it is some indication of what systematic culture will accomplish. Several parties have visited the office of the Commission to inspect these samples and have expressed wonderment at the result exhibited.

A Remarkable Yield of Moscatels.

C. A. Wetmore, Esq., Chief Executive Viticultural Officer, San Francisco—My DEAR SIR: Colonel Grannis of San Francisco and G. G. Bradt lunched with me on the 15th inst. The latter took a box of Muscats from my vineyard which he promised to forward to you by express. Wherever the ground was moist enough to sustain my system of pruning the vines are loaded with mammoth grapes; many—too many—bunches weigh from three to four and a half pounds each. Many vines had from seventy (70 to 80) to eighty pounds and some over one hundred pounds each. I measured an acre and weighed the product with 32,420 pounds (16½ tons) as the result, of the largest grapes I ever saw, all imperfect berries and surplus stems removed. Some of my men say I made too many allowances, that there were over seventeen tons, and that they could select an acre with more than twenty tons on it, but I think the statement already large enough to raise a question of veracity. The vines are five years old from the cuttings last Spring, and were never irrigated. Is this a suitable locality for the Muscat? I would like to have you show this statement to Mr. Geo. West, who was recently in my vineyard discussing the subject of pruning with me.

The vines which I experimented with last year, and which produced such a remarkable result, are growing vigorously this season, and are producing twenty-five to thirty (25 to 30) pounds each only (evidently an off year with them) of very fine berries and bunches.

The berries Mr. Bradt was to send you were picked on the 12th inst., and lay on the hurdles until the 13th inst. They were not selected for exhibition, which was an afterthought.

Yours, sincerely, GEO. A. COWLES.
El Cajon, San Diego Co., Cal., Sept. 17.

The chief viticultural attractions at the Mechanics' Fair were the raisins of T. C. White of Fresno, and the 116 varieties of wine and table grapes exhibited by J. H. Drummond of Glen Ellen.

The London Raisin Market.

[London Grocer's Gazette.]

All the first arrivals of Valencias were cleared off the market on the opening day 31st August. Good ordinary off stalk was readily taken at 40s. to 41s., and has since increased in value and been resold at 42s. The 200 tons are nearly all delivered, and the next arrival has been largely adjusted, both with dealers and exporters. The crop is reported as likely to be shorter than was originally reported, the fruit after curing process coming out rather lighter in weight. The usual competitive dealings with America will keep up prices for some weeks yet, in fact, if the quality continues satisfactory, a low range of price is not looked for until quite the end of the year.

RAISINS AND CHOLERA.

Spanish Raisin Caldrons used for Disinfecting.

The London Medical Times and Gazette of September 5th says: "Taking up by chance, a Spanish newspaper published at Denia, and devoted to the interest of the fruit trade, our attention was called to an article on the progress of cholera in the district and the measures adopted to check it. Among these were the provision of hospital accommodation and medical attendance, the disinfection of houses by sulphurous acid and of the clothes of the sick and deceased by immersion in water kept at the boiling point in the caldrons used for scalding the raisins. Comment is needless."

Los Angeles shipped East 20,450 pounds of raisins, by the Southern route, in July. There were no shipments from other points in the same month.

We welcome back among our exchanges the San Jose Mercury and congratulate the people of Santa Clara county that the paper has again fallen into the able hands of C. M. Shortridge.

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FRIDAY.....SEPTEMBER, 25 1885

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COVERS FOR WINE TANKS.

Quite a number of wine makers are experimenting this year with the use of covers for their wine tanks in making red wine, so as to preserve them from danger when it is necessary to leave them for some time exposed to the atmosphere. This is especially important when fermentations are languid at their conclusion, and it is necessary to leave them on the pomace to complete the work. Tight wooden covers, with simple apparatus for allowing the excess of carbonic acid gas to escape in such a manner that the air cannot return, are of course easily understood, but require some mechanical skill in preparation. Some are trying the practice of using simple covers made of light canvas tied closely over the top of the tank, supported across the center by a strip of board and depressed towards the center by light weights, so as to compel the canvas to fit closely over the edge of the tank. Some of the covers made in this way are also painted with paraffine paint, but it remains to be shown whether this is without objection.

AN INTERESTING EXHIBIT.

There will be in the next few days on exhibition at the office of the State Viticultural Commission samples of fruit of different varieties produced from one, two and three-year-old grafts on young resistant vines. Last year four samples of wines made from such fruit were exhibited by the Commission at the State Convention, including Petit Bouschet, Cinsaut and Monleuse. The quality of the wines was noticeably fine. This week the Commission will have several hundred pounds of Petite Syrah, Sauvignon Blanc and Semillon from two-year-old grafts to ferment as a further test of quality.

Mr. Clarence Wetmore commenced his late grafting at Livermore on August 12th, for the purpose of filling failures that occurred earlier in the season. He grafted a hundred vines in all, and by September 13th he counted thirty-five above ground, varying from two to eighteen inches in height. The varieties were Semillon and Sauvignon Blanc grafted on California.

CALIFORNIA WINE SHIPMENTS.

The MERCHANT gives in this issue the shipments of California wines by sea for the month of September, also a comparison of our export trade in wines, by sea, for the first nine months of 1884 and 1885. The total for this month aggregates 154,503 gallons of the value of \$74,302. This is a larger total than for any single month in the year 1884, and it is the largest month's shipment during 1885, except in January when the wine exported by sea amounted to 159,072 gallons. The increase is marked both in the shipments by Panama steamers and by miscellaneous routes, and they bring the total sea exports for the nine months of this year within 16,500 gallons of similar shipments in the same period of 1884, whereas a comparison for the first eight months of each year showed a decrease in 1885 of 104,700 gallons. This is an excellent showing for the month and one that we hope will continue in the future. It is attributable largely to the shipments made to New York by sailing vessel. Another important feature, and one which has not been noted for some considerable time past, is the fact that direct shipments of California wines have been made by sailing vessel to Hamburg. Though they only amount to 1,380 gallons yet it is a move in the right direction and tends to show an extension of our markets. We give the exports to Hamburg in detail in our regular wine table. The total figures for September stand thus:

BY SEA—SEPTEMBER 1885.		
To—	Gallons.	Value.
New York.....	47,135	\$17,076
Hamburg.....	1,380	1,453
Hawaiian Islands.....	1,004	1,058
Tahiti.....	983	459
Japan.....	743	496
China.....	591	421
Guyanas.....	584	550
Victoria, B. C.....	512	334
Mexico.....	203	126
Apia.....	50	45
By Panama line of steamers.....	53,185	\$22,618
By Panama line of steamers.....	101,318	\$51,684
Total.....	154,503	\$74,302

For the sake of comparison we give the total sea shipments for the first nine months of 1884 and 1885 respectively. Thus:

NINE MONTHS' SEA SHIPMENTS.		
Year.	Panama Line, Gallons.	Other Routes, Gallons.
1884.....	859,085	79,497
1885.....	800,620	121,431
Decrease, 1885.....	58,465	Gain '85, 41,934
Total decrease, eight months 1885.....		104,752
Total decrease, nine months 1885.....		16,531

OVERLAND SHIPMENTS.

The overland shipments by rail for the month of July show a decrease of 45,000 gallons compared with the previous month, and are smaller than for any month this year except January. A reference to last year's figures shows that the shipments of the third quarter were considerably less than those in the second and fourth quarters of 1884 and the same may prove to be the case this year. The largest falling off in July was in the shipments from San Francisco. The figures stand thus:

BY RAIL—JULY.			
FROM.	Northern Route.	Southern Route.	Total No. of gallons.
San Francisco.....	16,852	88,931	105,783
Los Angeles.....	3,957	21,897	25,854
Stockton.....	18,313	.....	18,313
Sacramento.....	1,827	14,287	15,814
Marysville.....	.....	2,694	2,694
Totals.....	40,649	127,709	168,358

To complete the totals for the first seven months of this year and to institute a comparison with the same period in 1884, we give the following table. Thus:

Year.	Six Months.	July.	Total Gallons.
1885.....	1,584,869	168,358	1,753,227
1884.....	1,145,274	189,333	1,334,607
Total gain in 1885.....			418,620

THE NEW SUGAR DEAL AT HONOLULU.

The news of the arrangement for the sale of a portion of the Hawaiian sugar crop to the American Refinery was received in Honolulu with very considerable exultation on the part of those who have systematically opposed and maligned Colonel Spreckels. The *Gazette*, which is the opposition planters organ, is exceedingly jubilant, and declares that the Islands are emancipated from the tyranny of monopoly, while the same issue contained an editorial explaining that the planters' deputation had done everything they possibly could to induce Colonel Spreckels to buy even half their sugar, at the same time expressing regret that he had been so blind to his own interests as not to renew his contract for the Island crop. This flat contradiction appears somewhat ridiculous.

Mr. P. C. Jones, one of the deputation who visited San Francisco, stated in an interview published in the *Bulletin*, that they were not compelled to buy shares in the American Sugar Refinery but that they would share in its profits. The *Advertiser* inquired the character of the arrangement between the planters' agents and the American Refinery by which the latter guaranteed a share of its profits to outsiders who held no stock, but no reply was made. By degrees it leaked out, however, that the planters had the option, for a stated time, of taking one-fourth of the stock at par, with a guarantee of 30 per cent of the profits. It is easy promising the latter, but if the business should only pay "Irish dividends," that is should lose money and be run by assessments, how will the planters like it? Unless they subscribe to the capital for the American Refinery they cannot sell their sugar, and unless they can refine their sugar at a profit and command a market the planters will lose money. The agents, however, will be secured to a great extent by their commissions.

The statement has been made and published in San Francisco that part payment for the Island sugar would be by stock and an interest in the American Refinery. The denial of this fact by Mr. Jones looks somewhat peculiar. The agents for the Hawaiian planters, having made the best possible arrangements they could for the sale of their produce, should have no reason to be ashamed of acknowledging these terms and conditions. Further than this it is important for the business men of San Francisco who trade with the Islands, to know exactly the commercial standing of the men with whom they conduct their business transactions. There should be no show of hesitancy in this respect. We regret that the planters are so far removed from the base of operations of the organization in this city with which they are now so closely related and it would be well for them to announce by whom their interests are cared for in San Francisco. This appears to us to be the objective point of the syndicate which is now manipulating this sugar deal.

Among our recent visitors were James A. Shaw and J. P. Hamilton of Glen Ellen; T. C. White of Fresno; Chas. E. Shillaber of the Cordelia Wine Company, bent on buying grapes; J. B. J. Portal and son of San Jose; H. M. Maxwell of Colfax; C. E. Henson of Honolulu; J. H. Drummond of Glen Ellen; His Excellency J. M. Kapena Hawaiian Minister of Finance, who proceeds next week to the Louisville Exposition.

CO-OPERATIVE WINE MAKING.

The expansion of our wine trade is one of the most important questions of the day. Heretofore it has grown without system or design. The result has been that a great many mistakes were committed and not a little loss incurred by individuals, which might have been avoided if development had been according to intelligent plan or rule. The time has come, however, when a new departure should be made. Private enterprise has accomplished much; it is capable of accomplishing a great deal more; but we think that for the present at least a greater degree of progress might be made by introducing the principle of co-operation in wine making. This is precisely what private enterprise does when it incorporates, and operates any industry by means of a company.

But we do not quite approve of incorporating, except in special cases. We think that a number of owners of small vineyards might co-operate, without forming a joint stock company, for the purpose of making wine and providing adequate cellarage. Especially is this applicable to new vineyards. An example may be found in the co-operative dairy plan of the Western States, which has been adopted with the most beneficial results in Australia and New Zealand.

We throw out this suggestion to vine growers as one of practical value. Many of them are doubtless familiar with the methods adopted in co-operative dairying, and their experience would enable them to apply the same principle to wine making. In the case of large vineyards, perhaps, the system might not suit; but it unquestionably would in the case of small vineyards. And the tendency of the future infallibly will be to reduce the area planted in grapes held by a single individual. Small vineyards yield far better returns, acre for acre, than large ones however well managed, although planted with the same varieties of vines. The reason is obvious. Greater personal care can be bestowed by the proprietor on a small than on a large vineyard; and there is nothing in the world that pays better than constant attention to details in viticulture.

Let us therefore have co-operative wine making, to encourage production by the creation of small vineyards throughout the State. There is really no county in California in which wine cannot be made successfully. But in this age of competition by manufactured wine, and the heavy tollage imposed upon production of pure grape wine by middlemen, it is above all things essential to the success of the small producer that he should be able to market a first-class article at the lowest possible cost to himself. This he can only accomplish by co-operation.

We have received photographs taken on the vineyard of Mr. J. H. Drummond of Glen Ellen, showing some of his foreign imported varieties of vines in full bearing. They present a magnificent sight, the bunches being both thick and well developed. The vines photographed were selected on account of their position and light and are fair average, but not selected, specimens, and they certainly show the success of the foreign varieties in California. The vines photographed were the St. Macaire, Chasselas Fontainbleau, Merlot, Cabernet Sauvignon, Semillon, Petite Sirrah, Gros Manchin, Tannat, Gamai Teinturier, Pinot de Pernand, Alicante Bouschet, Franc Pinot. The photographs are from the studio of Mr. Faber.

AUSTRALIAN MAIL SERVICE.

The continuation of the mail service with Australia is assured, thanks to the New Zealand Government. The importance of this service to the United States generally, and to California in particular, has been pointed out by the MERCHANT time and time again. Statistics of our import and export trade have been given showing a large balance in our favor. San Francisco is especially in need of this trade connection, and in fact of every other commercial extension that can be obtained through utilizing the Pacific ocean. Not only do we derive great benefits from actual commercial transactions but we should also through an enlargement of our shipping interests, a most important factor in our financial prosperity. Unfortunately in the present instance the service is to be conducted by vessels flying the British flag. We see no reason why American enterprise in maritime traffic should not be subsidized on the same basis as land transportation companies. However, we must be content for the present that the Australian mail line to San Francisco is to be continued.

We have frequently within the past year urged upon our commercial organizations, which are presumably authorities in matters relating directly to what concerns the trade of San Francisco, not to delay till the last minute concerning this Australian mail service. We predicted that a hue and cry would arise as soon as there was an immediate prospect of its discontinuance. This, of course, proved to be the case. There was a meeting of these local bodies who represented the case to the Postmaster-General, who, apparently, pigeon-holed their petition. But there was a very general and firm conviction "on the streets" that a full share of the blame that arose through the prospects of the discontinuance of the service should be laid, where it belonged, at the door of the Pacific Mail Company. Congress having voted an appropriation for the transportation of the mails, it immediately behooved this corporation, not content with their subsidy derived from the New Zealand Government, to grab for all they could out of the American Government. But there they found themselves defeated. They have inconvenienced the public as far as they were able in connection with the Panama, China and Japan mails, and the public will not forget it. As far as Australia was concerned, however, they were compelled to fulfill their contract with New Zealand. It was announced that the company proposed to withdraw entirely from the service, hence their action was a purely selfish one.

New Zealand, which is the colony mainly affected by a continuation of this service, will pay the whole cost for the benefits derived for mail transportation, irrespective of the benefits derived by this country from trade associations. It was only natural then to expect that New Zealand would impose conditions that combined the greatest possible advantages to itself, and this has been done by shortening the contract time to eighteen days. The original proposal for a five year's service having been reduced to three years, shows that the colony is alive to prospective improvements in ocean traffic and does not wish to be bound for too long a period. Future developments may show that New Zealand is inclined to pay for a direct fortnightly service to England, experience having proved that such a line is practicable

and can be carried out by English steamers now trading to the colonies. Failing this a selection might be made in favor of direct communication from Auckland to San Diego thereby shortening the route by several days, which is the main point desired. After touching at San Diego these steamers could come on to San Francisco with freight and the majority of passengers.

The omission of Honolulu as a port of call would have been a cause of regret as a visit there is one of the attractions offered to and accepted by tourists. It would have tended to diminish our overland travel and a certain expenditure of money in California. But for three years longer we are enabled to secure these advantages as well as a continuance of our direct and rapid commercial relations with the colonies. It should not be forgotten, however, that it is to New Zealand alone that we are indebted for the privileges that we are permitted to enjoy.

THE GLUT IN FRUIT.

The glut of fruit in California does not speak well for our business and industrial methods. There should be no glut in any food product of universal use when means of preserving the same and of transportation exist. We have at our disposal in this State every appliance for preserving the entire fruit crop, if necessary, and in the railroads, steamships and sailing vessels ample means of transportation. If these appliances had been used as they should have been there would be no glut in the fruit market, and no talk of cutting down this or that variety of fruit trees, much less any reckless attempt to give it effect as has been reported in some places. Fruit trees take a long time to mature. They represent capital and labor, and should not be destroyed because an excessive yield is followed by low prices and slow demand. As well burn down one's house because in certain winds the chimney "smoked." This would be quite as rational as to destroy orange and fruit trees because the fruit did not bring satisfactory prices.

But there is a glut in fruit notwithstanding, and it is caused by the fact that the canning business, like the wine business, is in a few hands. The interests of the canners are not in common with the interests of fruit raisers. The cheaper they can get fruit the higher their profits, and they do not care whether the orchardist's crop rots upon the ground so long as they can fill their orders with cheap stock. Neither do they feel an interest in finding new markets, and so provide an outlet for the ever-increasing yield of our orchards. This is the key to the situation. Railroad freight has in reality little to do with it, and indeed can only apply to the transportation of fresh fruit, which is a perishable commodity, necessitating rapid transit and very careful handling. But only early fruit, of the primest quality, can be profitably shipped to Eastern points; while the bulk of the fruit crop, plus local consumption, may all be canned or otherwise prepared for market in a less perishable form.

Does it not occur to our fruit raising friends to apply the principle of co-operation to the preservation of their crops as a means of guarding themselves against loss, and rendering them independent of middlemen? The arguments used by us in our article on "Co-operative Wine Making" equally apply to the fruit industry. It is a mistake to expend force in condemning the railroad company for charging high freights, seeing that this is but a very small factor in

the case. Let them adopt a policy of self-help, and they will soon find themselves independent of middlemen, and without any dread of a glut in the fruit market.

GRAFTS ON RESISTANT VINES.

Grafting on resistant vines has been practiced in this State only recently and there are comparatively few vines which are now in condition to bear after grafting. During the last two seasons the area grafted has been quite considerable and with varying results as to the success of grafting, owing to the different methods adopted by those who have been doing the work. In Santa Clara, Alameda, Napa, Sonoma and Placer counties there are quite good sized vineyards which have been grafted in the last two years, where success has been unmistakably good as to the perfection of the union and development of the scion. Usually our most fertile vines bear well the first year after grafting, but with those varieties which are frequently grafted which are shy bearers, it is necessary before obtaining practical results as to the crop to wait another year. At Livermore there are now successful grafts in bearing on resistant vines of the following varieties: Aramon, Petite Syrah, Petit Bouschet, Alicante Bouschet, Clairette Blanche, Mondense, Cinsaut, Semillon, Sauvignon Blanc, and Malbeck and Almeria, which have been grafted two years and are now in good bearing. Samples of wine were made last year from some of these grafts, exhibited at the State Viticultural Convention, showing that the quality was not changed by the influence of grafting on wild roots. The result obtained from these grafts this year will be much more important as the vines are older.

In the Napa Valley there are vines also grafted last year which are bearing more or less this year, but no exact reports have yet been received by the Commission. Arrangements are now being made to send out a special inspector to report on the condition of these grafts with a view to ascertaining from the results obtained the best information for the guidance of those who will plant resistant vines in the future, or who are going to graft next winter. So far as observed in the Livermore Valley on vines that have been grafted two years on young resistant roots the grafted vines are bearing better than those of the same variety which are planted the ordinary way, by cuttings. That there will be found differences in the fruitfulness of vines grafted on wild roots is well known, as the resistant roots require certain soils in which they may best succeed. A resistant root planted in a soil not suited to it will of course not thoroughly support its grafts. As to the adaptability of different varieties of resistant vines to different soils the people of this State have to the present time been compelled to follow the advice, derived from French experience, which is much longer and more extensive than ours, but we are beginning to learn something ourselves, and those who select varieties hereafter can do so more intelligently than in the past. It is best, however, in all cases to test the different species on each vineyard, a few vines of each kind, so that in the future if they are needed for replacing other vines the grower may know which to select.

A splendid bunch of grapes of the Flame Tokay variety was sent to the Mechanic's Fair last week by Mr. Simon Newman, on whose ranch they were grown at Hill's Ferry on the West side of San Joaquin. The luscious looking cluster turned the scale at five pounds.

PRICES OF GRAPES.

A sale of white grapes reported from St. Helena showed that twenty dollars a ton was recently obtained, although large contracts were made at a less price early in the season. In Livermore valley the original wine makers offered to pay only fifteen dollars per ton, the result of which was the establishment of new wineries which will use the grapes from most of the vineyards where they are produced. The only sale that has been made there of importance has been to one party who has contracted for all he can get at twenty dollars. Others would not sell at that price. In Santa Clara county there were comparatively few wine makers buying grapes, though the grapes of that district are capable of producing some of the best colored and most valuable wines in the market, and which have always brought the highest price. Some of the producers transported to San Francisco, some of the most valuable of the wine grapes of the State being made up in this city by wine makers who realized their value and paid a good price for them. An attempt was made for a party in Stockton to purchase, in Santa Clara county, a lot of Folle Blanche for distillation in order to test their value for making brandy, as this variety is one that takes the lead in the Cognac district of France. Twenty dollars was offered for this test but was refused, thirty dollars being demanded. A lot was then offered in Niles for \$25. The panic caused by the sale of very inferior wines at low prices last Spring, and the losses sustained by many of the wine makers who paid high prices for poor grapes, have been the causes for all the trouble. Grapes of a fine quality this year should be worth as much if not more than they have ever been, as there is no possibility of over-production during the time when these vintages will be on the market.

THE NO SEWERAGE SYSTEM.

The *Chronicle* has made a thorough and complete exposure of our filthy city. While praising and extolling our advantages and attractions it has been too much the custom to neglect unpleasant and unwholesome truths. We regret to know that we are sitting daily and nightly on that portion of Front street, between Sacramento and Washington, where there is no main sewer, and that all the drainage is saturating the soil beneath. We can only hope that this hot-bed of disease will not suddenly become prolific as it is probable that any effectual improvements in the supposed system of sewerage must be preceded by thorough reform in the system of city government, which will doubtless prove the more difficult disease to remedy.

RARE VARIETIES FOR GRAFTS.

The demand for information, as to where some of the noble varieties of wine grapes which have been recently imported from Europe can be obtained, that is being constantly made at the office of the Commission now, indicates that during the coming Winter a great deal more attention than heretofore will be directed to the improvement of our vineyards by grafting over the inferior varieties with the nobler vines that are now better known than they were a few years ago. The chief difficulty is, however, the scarcity of these fine stocks and the want of accurate information with respect to many of them, as to where they will best succeed.

VENTURA COUNTY

Takes the First Premium for County Exhibits.

Particulars of Its Soil, Climate, Scenery and Resources—The Exhibits at the Mechanics' Fair.

Ventura is one of the few counties of California concerning which comparatively little information has been made public. Yet, judging by its exhibits shown at the Mechanics' Institute Fair in this city, it is certainly but just and reasonable that greater prominence should be given to its productions and resources. That the settlers in the county have been making marvelous progress in a quiet and unassuming manner there can be no doubt. Having established themselves on a permanent and solid industrial basis they have now begun to take active steps to make public their general agricultural standing as one of the important counties of California.

THE COUNTY.

Ventura County is situated some three hundred miles southeast of San Francisco, between Santa Barbara and Los Angeles. It has all the benefits derivable from communication with other parts by rail and by sea, its chief port, San Buenaventura, being easier of access from San Francisco by sea than by overland travel. The county was organized in 1873 when it was cut up into some fifteen or twenty large ranches which have since been subdivided. Good agricultural and pastoral land can be obtained at reasonable rates, from \$5 an acre upwards, and the area of the entire county is 296,000 acres. It is watered throughout its whole length by the Santa Clara river which is fed by several tributaries. Besides this is the Ventura river, and the two furnish abundant supplies for irrigation and render the county the best watered in Southern California. The population of the county is about 8,000, one thousand of whom are Spanish. It will thus be seen that there is ample room for intending settlers.

THE SOIL.

The soil is generally a rich loam, with adobe on some of the mesas or table lands. The latter is very strong, and produces abundant crops of fruits and grain. The rich, loamy soil of the valley seems inexhaustible. It produces from 25 to 60 bushels of wheat to the acre, and fully as much or more barley. It is also finely adapted for corn, which yields from 60 to 100 bushels to the acre, and as high as 125 bushels have been reached. This same land produces from 1500 to 2000 pounds of Lima beans to the acre, and about the same of Bayous and Navy, or small whites. In some instances as high as 2500 pounds to the acre have been raised. In 1881 \$100 to the acre was realized from lands farmed in beans throughout the Santa Clara valley, enabling farmers to pay for their lands besides giving them a surplus for other purposes. There is also choice fruit land, where apples, apricots, peaches, nectarines, prunes, plums, walnuts, almonds, pears, figs, lemons, limes, loquats, guavas, persimmons, and nearly every species of northern and semi-tropical fruits grow to perfection. Oranges do best a few miles from the coast.

THE CLIMATE.

The climate of Ventura county is difficult to overestimate. Near the coast the mercury seldom falls below 43 degrees or rises

above 83 degrees; but in some places back from the ocean in the mountain valleys it is somewhat warmer in summer and cooler in winter. Taking it all together the evenness of the climate is unexcelled. Thermometrical observations extending over a series of years and recorded by the late I. T. Saxby, of San Buenaventura, indicate an average temperature of about 58 degrees. Near the coast frost is seldom or never seen; but several miles back from the ocean a little frost occurs in winter, yet not sufficiently severe to injure orange trees or the most tender vegetation, except in rare instances. Large banana trees may be seen growing a dozen or fifteen miles from the coast. The same character of clothing is worn winter and summer. While nearly all kinds of northern and semi-tropical fruits flourish here, roses, fuchsias, geraniums and many other flowers bloom continually, and strawberries may be procured nearly any day in the year. The days are warm but never sultry, hence sunstroke is unknown in the county.

THE SCENERY.

The scenery of Ventura County is very attractive. On either side of the Santa Clara valley mountains rise to the height of from two to four thousand feet above the sea level, their serrated summits presenting a bold and rugged outline against the sky. Senator Sherman of Ohio said that this broad valley, with its surrounding mountains and its clear, blue sky, forcibly reminded him of Italy, but that this was on a much grander scale. Out at sea is a chain of islands rising up like grim sentinels to a height of about two thousand feet. On some occasions San Nicolas island, eighty miles distant, may be clearly seen with the unassisted eye. The Ojai valley is a great amphitheatre, whose walls are mountains. They rise like citadels and embattled walls in all directions. Overlooking the whole is Mt. Topa-topa, rising to a height of five thousand or six thousand feet, and coming out in springtime from the snows of untold winters as fresh and beautiful as ever. The Conejo, which appears like a high plateau, is really a succession of wooded valleys, with hills and mountains rising in beautiful sublimity. The Piru creek has cut its gorge through bituminous slate, granite, diorite, etc., leaving vertical walls on either side from one to two thousand feet high, reminding one of the cañon of the Colorado.

STOCK RAISING.

This industry has been carried on in Ventura county somewhat extensively for many years. When under Mexican rule it consisted solely of cattle and horses, but when the Americans took possession they made sheep raising a specialty. Under their supervision the county has supported as many as a quarter of a million head at one time. At the present time there is something like seventy-five thousand head in the county. Recently imported draft and other horses have been introduced, the last assessment roll indicating three thousand American horses, over two thousand three hundred of which are graded. Percheron, Belgian, Hambletonian, Morgan and other breeds have been imported. Among cattle there have been imported Durham, Jersey and Holstein breeds, making the grade of cattle the very best. The county is far in advance of many others in the best breeds of horses and cattle, farmers having reached the conclusion that good stock can be as easily raised as the poorer varieties and to much greater profit. The

raising of hogs is also engaged in extensively and profitably. Diseases among stock are unknown, except scab in sheep which has not proved destructive. Poultry raising has also proved profitable, chickens and eggs always commanding good prices.

FRUIT CULTURE.

The soil and climate of Ventura county are well adapted to nearly all varieties of northern and semi-tropical fruits, prominent among which are apples, pears, quinces, apricots, peaches, prunes, nectarines, plums, cherries, loquats, Japanese persimmons, guavas, etc.; cherries to a limited extent. Oranges, lemons, limes, pomegranates, and citrons are successfully grown, also all kinds of small fruits, such as blackberries, raspberries, strawberries, etc. Walnuts and almonds are grown extensively and Italian chestnuts do well. Probably all kinds of apples that can be raised in any country are grown there. They are of very superior quality and there is no place in the United States where they keep better. The dried apples sent from this county have commanded double the price of ordinary-dried fruit. Pears of superior quality are raised and are found profitable both for drying and canning purposes. Quinces grow to perfection without the least care and yield largely. The soil seems to be exactly suited to the apricot, which yields immense quantities of fruit of large size and excellent flavor. Upwards of five thousand acres are planted in apricots, one-third of which are bearing. It begins to fruit the second year after planting and the third year yields a profitable crop. During the season that has just closed it is estimated that between five and six hundred tons of green fruit have been dried, yielding about one hundred tons for market. Many tons went to waste for lack of drying capacity, but this want will be met in the future. It is probable that one hundred tons have been canned and consumed during the apricot season. Prunes are doing well so far as tried and promise a profitable yield. The French prune grows to great perfection, yielding largely and promises to become a paying industry. Peaches of all varieties do exceedingly well, and seldom or never fail; in fact this may be said of nearly all kinds of fruits grown in the county. Some years the yield is not as great as others, but there is never a total failure.

A few olive trees planted by the Mission Fathers many years ago, in San Buenaventura indicate their prolific character. At the Camulos rancho the fruit is manufactured into oil of a superior quality and many are pickled. The tree will grow any place in the county where tried, from the beach to the top of the mountains and can be made profitable. A few 75-year-old Mission olives are bearing every year. The largest orange and lemon orchard in the county is near Santa Paula. The orange trees of this orchard of nearly one hundred acres are just coming into bearing and promise well. The lemons, of which there are six varieties produced, have been more thoroughly tested and are superior to most grown in the State. Farmers and fruit growers have not turned their attention largely to grape culture, but as far as tried they do remarkably well, raisin grapes being especially successful. At the Camulos, in the northern part of the county, a fine quality of wine has been successfully manufactured for years. For size and flavor the grapes grown in this county will compare favorably with the best. A few miles from San Buenaventura is one of the largest grape vines in the world.

THE EXHIBITS AT THE FAIR

Show clearly the truth of the foregoing statements, and the superiority of Ventura county as an agricultural district has been proved by the award of the first premium for county exhibits given by the judges. To Mr. N. Blackstock of San Buenaventura was entrusted the work of collecting and displaying the exhibits. In the spaces allotted to him on the main floor he has made a marvelous showing. In the center in pyramidal shape, are arranged almonds, walnuts, beans, corn, wheat, barley and fruit of every kind in glass. These are surmounted by hops, sheaves of grain and tropical palms. On the surrounding tables may be seen thirty-seven varieties of apples, six varieties of lemons, oranges, pears, limes, pomegranates, and peaches in abundance. There are also splendid-looking samples of jellies made from every fruit exhibited. Among the vegetables is the giant pumpkin weighing 150 pounds and measuring six feet in circumference; there are innumerable varieties of mangel wurtzels and potatoes. The dried fruit is especially attractive and innumerable favorable comments were heard upon the appearance of the apricots, which in the process of drying, have fully retained both their color and flavor. The apricots are dried mostly by J. A. Day's patent process. The display of honey is a thoroughly representative one considering the magnitude of the industry. There are no less than 18,000 hives of bees in the county, and 1600 tons of honey were exported last season, two large consignments being sent to Europe. Notwithstanding the low price paid for honey last year the business proved remunerative. Hops, of which there are good samples, are merely grown for home consumption, the farmers finding that other products pay better. The samples of olives and olive oil show that this branch of agriculture should be much more largely extended. The fruits are canned mainly by individual orchardists as they find they can obtain better returns than by selling to large canners. This is an example that might be advantageously followed to a greater extent in other parts of the State. The fruits put up in glass are the results of the first year's experiment in this direction. Some of the fruit has been bottled in salt water for the purpose of showing its natural color as picked from the tree, and a comparison with the merchantable article shows but little difference between the appearance of the two. On a table opposite the main stand are prunes, raisins, grapes, peaches, wines of different varieties, cider, peach and apple brandy. Mrs. Theodosia B. Shepherd exhibits 60 different varieties of flower seeds which she sells to Eastern customers. Miss M. Gesford exhibits some silk cocoons but this is an industry which has not yet extensively engaged the attention of the ladies of Ventura county. We might continue enumerating and particularizing the productions without end, but conclude by stating that walnuts and apricots have been found the most remunerative fruits, the walnut paying at the rate of \$15 a tree, and cherries are about the only kind that do not succeed to as great advantage as others. The excellent oils of the county are generally known, the oil belt extending for 67 miles and yielding asphaltum, tar, light brown oil, green oil and lubricating oils of several varieties. The Piru mining district produces gold and silver in paying quantities and there is sufficient water for crushing. A carefully prepared pamphlet

giving full particulars of the county has been widely distributed during the continuance of the Fair, and Mr. Blackstock, who has been indefatigable in his labor of love for his county, states that at least two-thirds of his applicants for information were visitors from the East desirous of gaining information with a view to future settlement.

HON. M. M. ESTEE.

Extracts From His Address to the State Agricultural Society.

From Mr. Estee's recent valuable and instructive address delivered at Sacramento, we make the following extracts: "We are making a record; let it be a splendid one. The truth is good enough. We must convince people by our acts as to what we can do. We must show them by sample that we can raise something that other people can not raise, and do something that other people cannot do. But the sample must be an honest one; it must be true to label. Our canned fruits must not deceive the man who buys them. The stamp upon our wine must tell the whole truth. It should be made a felony to put French labels on California wines. If our wine is as good as the French wine, then this is a fraud upon us; if it is not, it is a fraud upon them. It is a wicked subterfuge that flatters the vanity of foolish men who prefer what is foreign because it is foreign, not because it is best. With our facilities to produce, and to produce the best of everything, absolute business honesty as to what we have for sale is more necessary than anything else that can be done or said by us to secure a permanent success. A business lie destroys the very business it would build up.

RAISINS.

"Raisins exported overland show an increase from 220 pounds in 1874 to 3,150,290 pounds in 1884, and in reduction in rates of transportation, from \$2.81 to \$1.50 in 1884 and \$1.23 in 1885, per 100 pounds. I am informed from the most authentic sources and especially from W. T. Coleman & Co., one of the leading raisin-shipping houses on this coast, that the total raisin production for this State in 1884 was 175,000, 20-pound boxes; that for this year the yield will exceed 250,000, and that next year the estimated crop is over 400,000. Taking into consideration the vines already planted, within five years California will produce 1,500,000 boxes of raisins, worth from \$3,000,000 to \$4,000,000. There are at present exported into the United States annually about five million boxes of raisins. When we recollect that the raisins of the world are produced in a small portion of Spain and in California, while the whole civilized world consumes them, we can then well understand the great value to California of this new industry.

WINES AND BRANDIES.

"But not less conspicuous among our productive industries is the grape-growing. It is estimated that there are now 150,000 acres of land planted to grapes in this State. Most of them are not yet in full bearing. When in full bearing, putting the average crop at but three tons to the acre, yet within the next five years we will produce not less than 65,000,000 gallons of wine. Hitherto a very large portion of our wines and brandy have been shipped to market by sea. The amount thus shipped cannot be accurately obtained. The following table shows the amounts of wine and brandy shipped East by rail, and also the prices of freight:

BRANDY.		Average Rate.
	Pounds.	
1874.....	38,390	\$4 20
1875.....	393,750	4 20
1876.....	232,060	4 20
1877.....	735,220	4 20
1878.....	484,930	4 20
1879.....	683,880	4 20
1880.....	926,140	2 50
1881.....	1,456,520	1 75
1882.....	1,707,480	1 75
1883.....	1,847,790	1 75
1884.....	2,021,300	1 75
1885 (9 months).....	1,268,900	1 27

To Chicago and points West.
The current rate of brandy to New York is \$1.50 on each 100 pounds.

WINE.		Average Rate.
	Pounds.	
1871.....	2,307,690	\$3 78
1872.....	2,635,700	3 78
1873.....	3,837,240	3 78
1874.....	4,627,166	2 00
1875.....	4,867,190	2 00
1876.....	5,524,770	2 00
1877.....	5,178,850	2 00
1878.....	5,560,290	2 00
1879.....	7,568,500	2 00
1880.....	9,320,700	1 50
1881.....	13,179,870	1 50
1882.....	14,477,120	1 50
1883.....	18,853,940	1 50
1884.....	23,080,580	1 50
1885 (6 months).....	14,277,130	1 23

To Chicago and points West.
Current rate on wine to New York and other Eastern points is \$1.50 per 100 pounds. Every year in the future our wines will improve in quality, because our varieties of grapes are better. Good wine cannot be made from inferior grapes, nor can the same character of wine be made in all parts of the State. The Bordeaux variety of grapes must be planted near the coast. The grapes grown in the south of France and in Spain should be planted in the interior where the heat is great and where heavy wines are best produced. The best experience of centuries of grape culture in other countries shows us what is best to do in this country. Climatic influence has a very marked effect on the character of wine produced."

OVER-PRODUCTION.

"Who ever heard of too much to eat? The fact is, California has produced so much of everything, and produced it so well, that whenever we do enter into competition with the rest of the world in a new field of industry, after all other complaints are dissipated, we hear the old cry, "There is too much of it. True, it is good; but you produce too much." Think of an over-production in fruit! Why, there are 50,000,000 pounds of prunes imported into the United States annually. There is no reason why California should not produce them all. Why over-production in wine when there are 800,000,000 gallons of wine made in France annually, and yet they import more than they export; while in California we have only one year made 15,000,000 gallons. The people drink more gallons of whisky and beer in any one of eight States of the Union every year than all the wine we have ever made in California. Who in California ever heard it said that there was an over-production of whisky or beer? It is gravely asserted that there is not a city of 20,000 inhabitants in the United States where there is not a brewery or distillery, even including the State of Iowa. How, then, can we produce too much wine, if it is good; but wine, like wheat or fruit, must seek a market. It will not sell itself. Let me remind you there cannot be an over-production of the best of an article. If we make the best raisins, the best wine and

the best brandy, and if we can the best fruits, these will always sell, because for these things we have the world for a market, but the world must know what we have to sell.

ESTABLISHED IN 1860,

ALL WINE MAKERS
Should drink the
PURE BELMONT
— HAND-MADE —
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CHEAP WINES.

CHAPTER II.

What is wine?—Varieties of grapes: strong grapes and weak grapes—Anatomy of the fruit—Ingredients: saccharine and nitrogenous—Fermentation: process of, theories of, the chemical, the chemico-vital, or panspermatic, and the archebiological—The new wine: the care it requires, racking, sulphuring, and fining.

[By ROBERT DRUITT.]

By wine we mean the juice of the grape, which has been fermented, and thereby has been partially converted into alcohol, and into various other stimulating matters. Some of its qualities depend on the grape, others on the fermentation and subsequent changes.

"*Il buon vino comincia nell' uva.*" Good wine is made from good grapes. The tree is known by its fruit. I am not going into the subject of ampelography or viticulture, yet it is a part of common wine-lore to know that the kind of vine is the most important element in determining the quality of the wine. Some vines there are which are hardy, grow rapidly, resist disease, and produce grapes in the utmost abundance; such is that which is called the crazy—*enrageat, folle blanche, or picpoule*; the extensive cultivation of which is lamented by M. le Dr. Jules Guyot. This produces excellent brandy, but deplorable wine—wine fit only to be distilled, or "burnt," as our forefathers would have said. On the other hand, the vines which produce good wine are more delicate, require more care in cultivation, are more subject to disease, and what is worse, produce very much less wine per acre than the more plebeian varieties. Such are the *Grenache, Teret Noir, Pinot*, etc. Of the grand wines of Burgundy, the produce is seventeen to nineteen hectolitres, per hectare; of the inferior wines in the South they may get more than 100 per hectare. This is, as I have said, a part of wine-lore of which the Englishman has little practical knowledge; but I am obliged to point to it for this reason.

The object of my writing is to show the excellence of wine, or fermented grape juice, as a beverage. But unluckily, we are confronted with some of the scientific criminals, the felons of the laboratory, the forgers of the cellar and pirates of the stomach, who would fain persuade us that all the virtues of wine are due to one ingredient—alcohol; and that therefore there is no harm in adding alcohol to wine, or making a sham wine by fermenting sugar and water with the husks of grapes from which the juice has been extracted. On the other hand, the practical philosopher sees in wine one whole and indivisible product of the grape, deriving virtues from the grape which cannot be got out of sugar and water. He therefore demands unmixed grape juice, and takes cognizance of the qualities which distinguish one grape from another. On this point let us hear the voice of Mr. Pasteur, the great chemist and oenologue, and master of the doctrine of fermentation.

"M. Bertholot," he says, "has expressed the opinion which, in my judgment is correct; that the *vinosity*, or the power of wine, is not due solely to the alcoholic principle. Wine certainly contains one or more substances besides alcohol, which give it strength. I add, that these substances are not the produce of fermentation or vinification. They are all ready-formed in the grape, and it is easy to show that there are strong grapes and weak grapes, just as there are strong wines and weak wines."

He compares two kinds of grape, the *Ploussard* and *Valet Noir*; and shows that it is not mere quantity of acid and sugar that determine the acidity or sugariness of the taste of the juice; and that grapes may give a wine strong in alcohol and in acid, according to the test of the chemist; yet that this wine may taste flat and insipid, by comparison with wine from other grapes.

These are valuable words, and teach us the lesson that the apparent sourness of a wine on the palate is no true measure of the quantity of acid it really contains.

So much for the kind of vine. We may next linger for a moment on the grapes or berries.

These furnish a remarkable instance of the minute mechanism of natural objects, simple though they may seem to those who have never studied them deeply. The skin is a tough structure charged with wax, to preserve it from wet, and containing abundance of tannin, an astringent vegetable principle like that which is found in tea, oak-bark, and the like; and of coloring matter. The coloring matter is either deep blue or yellow. The blue coloring matter is found in the skins of what are called black grapes, and like other vegetable blues becomes red when mixed with acid, in the development of wine. The grape juice is not colored, as any one may see who cuts across a black grape; it may be faintly pinkish, but it is not blue-black like new wine, nor red like old wine. Neither is it astringent; the color and astringency of red wines are got by fermenting the skins of black grapes with the juice. The coloring matter is not soluble in water; ladies know too well that it will not easily wash out, when spilled on a tablecloth; but it is easily dissolved in alcohol, and therefore is dissolved out during the development of alcohol in fermentation, along with the tannin. The deeper the color of wine, the rougher it is generally as well, for the tannin and color go together. Let the grape skins be macerated as they may, they retain abundance of color to the last, and the men who shovel out the mark or pressed grape skins from the huge *caves* or vats in which the wine has been fermented, are of the color of indigo. No kind of artificial color is so cheap and abundant as that of the skins. This may be a comfort to those who fear that French wines are artificially colored with elderberries or other pigments.

It is well known that the *mark*, or squeezed-out grape skins, when distilled, yields a considerable amount of brandy. Hereby we have an illustration of a fact well known to English ladies, that brandy-cherries are much stronger than cherry-brandy; that is to say, certain vegetable matters—such as cherries and grapes and other fruits, when soaked in a liquid containing alcohol, have the power of imbibing the alcohol into their substance, and thus contain within their interstices a liquid much stronger than that which they are soaked in. Hence the expediency of not allowing the grape skins to macerate too long in the young wine.

The anatomy of the grape-berry is on a small case, the same in many respects as that which can be easily seen in the orange. Outside is the skin, which can be peeled off clean, as that of the orange can, and which if tasted is well known to be rough and astringent. It is thoroughly indigestible. The human gizzard will not dissolve grape skins. The flesh of the grape is a highly organized pulp, consisting of a mass of delicate cells or vesicles, filled with the precious juice. The juice of fruits, be it remarked, does not

lie loosely in the interior as in a sponge, but as it were in a host of microscopic bladders; and in order that it may run out, the containing vesicles require to be thoroughly smashed up, just as is done in squeezing an orange or lemon, in which the containing vesicles are easily seen by the naked eye.

Inside the fleshy pulp are the pips or stones, some large and well developed, others dwarfed and abortive. These pips are of stony hardness, and abound in tannin. When we add that the stalks also abound in acid and tannin, we see the source of the roughness of the wines in which juice, skins and stalks are macerated and fermented together. We see the reason of the vigorous treading which was employed in former days, and still is in old countries to crush the grapes, because otherwise the juice does not run out of its containing cells; and why it is that the rollers employed to crush the grapes in Mr. Patrick Auld's vineyards in Australia are covered with cloth so that they may not crush the pips whose bitterness would be too much.

Having thus cleared the way, we may quote from the able chemists, Mulder, Maumené, Griffin, Guyot and Vergnetto Lamotte to tell us what ingredients they find in the grape juice.

First and most essential is *sugar*, the quantity of which goes on increasing in the grape as it ripens. The sugar is the *sine qua non*, for without it there can be no alcohol. Intelligent and scientific wine growers carefully watch the increasing quantity, day by day. The quantity of it in the juice is estimated by the specific gravity—i. e. its weight compared with that of an equal bulk of water, and besides there are more accurate, but more troublesome processes which we need not describe, merely adding that the sugar varies from 12 to nearly 30 per cent of the weight of the grape juice or "must."

The second, and equally essential ingredient, is acid, especially the tartaric.

Thirdly, grape juice contains potass, an alkali derived from the soil, and found in the ashes of all land plants; some lime, soda, iron, phosphoric acid, and other inorganic principles common to all vegetables, and detected in the ash after they have been burned.

Fourthly, a number of substances, such as vegetable albumen, gum, odoriferous and flavoring matters, some common to all vegetable juices, others peculiarly characteristic of the grape, which owes to them its distinctive flavor.

So much for the grapes. The process of wine making is begun by gathering the grapes, and crushing them; the juice is then put into *caves* (Cuppa or Cupa) or tuns to ferment; for red wine, skins and often stalks, are all fermented together; but for white wine the juice is strained off and fermented by itself.

Now let us see what happens in fermentation.

The liquid becomes warm, it gives off carbonic acid gas in abundant bubbles, and when the fermentation is over it is found that the sugar has vanished, or nearly so, and that instead of it, the liquid from being sweet, is *vinous* and heady, and that if distilled, it gives off various substances more volatile than water, of which the chief, when collected, is known by the name of *spirit of wine*, or in its highest state of concentration *alcohol*.

Sugar is found in abundance in many vegetables, and there are many kinds of it,

named from the plants in which each is respectively found—as cane sugar, grape sugar, and the like. The starch which abounds in vegetables (barley, potatoes, rice, etc.), is also converted into sugar in germination or fermentation.

The main fact is, that when a vegetable juice is crushed out, or prepared artificially as in making a *wort* in brewing, if it contains sugar with the nitrogenous substances naturally found in vegetables, it naturally begins to ferment if exposed to air and sufficient heat. The first man who squeezed out grape juice, and tried to keep it a few days, was also the first man to make wine. The teetotal fanatics are not ashamed to say that God made the grape, but that the devil or man makes "cussed alcohol." Sane persons acknowledge that He who made the grape juice, gave it also the property of fermenting unless hindered by art and care.

What happens in fermentation is very wonderful; it is, that sugar, a sweet, cloying, neutral-tasting stuff, is converted into almost half its weight of alcohol, a hot fiery heady volatile liquid, and half into the well known gas called carbonic acid. In theory, any quantity of grape sugar should yield a little less than half its weight of alcohol, and a little more than half of carbonic acid. It is here assumed that all the sugar is decomposed into alcohol, whereas in fact a small part remains; some is probably converted into other products besides alcohol, and part of the alcohol is lost. Anyhow the quantity of sugar is that on which the quantity of alcohol depends.

We must always, however, bear in mind that *pure sugar per se* dissolved in water does not ferment, but that, along with it, there must be supplied by nature or art some of the azotised albuminous or nitrogenous matter which is the essential constituent of all living things, animal or vegetable. The sugar in grapes is like the oil of the olive, or the fat of an animal, a most useful and beneficial product, but that which produces it is the nitrogenous living matter, *germinal* matter, bioplasm as Beale calls it, of which the actual substance of the plant consists, and which is the seat of its vital forces.

Given then, a solution of sugar, and the presence of albuminous matter as in grape juice, what is the force that sets it fermenting, and causes the marvellous change into alcohol and carbonic acid?

Two leading theories occupy the scientific world: one, which has descended from Willis and the great iatrochemists of the 17th century, and one which is upheld in our times by the illustrious Liebig; this is the purely *chemical*;—the other, the *chemico-vital*, with which Pasteur's distinguished labors are associated, and according to which chemical change follows, on the development in the fermenting fluid of minute living plants.

According to Liebig's theory, a nitrogenous substance which is itself undergoing decomposition, is capable of effecting decomposition in any unstable substance with which it is in contact. The substance called *yeast* is a nitrogenous substance undergoing decomposition. The disturbance in its constituents during oxydation effects a disturbance in the sugar, which splits it up into alcohol and carbonic acid. "Alcohol and carbonic acid are produced from the elements of the sugar, and *ferment* (i. e. *yeast*) from the azotised constituents of the grape juice, which have been termed gluten or vegetable albumen." "Fermentation is

excited in the juice of grapes by the access of air; but the process once commenced, continues until all the sugar is completely decomposed, quite independently of any further influence of the air."

The *chemico-vital* theory which has been developed by M. Pasteur, is the more worthy of attention inasmuch as its scope has been extended, and it has been made to account for the decomposition of organic substances in general, and for those abnormal movements in living bodies which are known as fevers. The term *zymotic*—i. e., *fermentative*, is as we all know, applied to these diseases by the Registrar-General; and if Pasteur's theory be true, we have in the fermentation of grape juice, in the mode of limiting that fermentation, of preventing it from going to an injurious extent, and in the mode of preventing the various maladies and the injurious changes to which wine is subject, the rationale of the mode of keeping our larders sweet and our bodies healthy.

M. Pasteur's doctrines, which are developed in those *Etudes sur le Vin* which he was induced to undertake by the Emperor Napoleon III. (whom our volatile Gallic neighbors certainly cannot accuse of indifference to the physical well-being and commercial prosperity of their country), are briefly these: It is assumed that the air, and the surface of almost every substance in the air, is laden with the germs of minute organisms, which become developed in organic substances which they gain access to; and the development of which in organic substances is attended with various changes of the nature of fermentation. Thus the grape juice, if squeezed out under mercury, and with precautions to exclude the air, will remain unaltered; whilst if the smallest bubble of air be admitted, fermentation will begin. On the *chemical* theory, this is because of oxydation of nitrogenous matter, which communicates movement to the sugar, as we have before described. But according to the *chemico-vital* theory it is because the air introduces germs of the torula or yeast plant; this plant in growing forms itself out of the albuminous elements of the juice, and absorbs the sugar, which it decomposes, as above.

The details of fermentation are easily explicable in the *chemico-vital* theory; for instance, it is made slow by cold below 40 degrees Fahrenheit, in which the yeast plant does not grow, and altogether stopped by heat above 120 degrees Fahrenheit, which kills it. It is also checked or stopped by chemical agents—sulphur fumes, strong alcohol, creosote, and the like. It will not take place in liquids too dense or sugary; and it ceases when a certain quantity of alcohol has been produced.

We may say that it really seems established that the yeast plant is essential to the production of alcohol, but that in many other fermentative changes, mere chemical, and not *chemico-vital* agents suffice; while sometimes the presence of living organisms in decaying matter is a coincidence or adjuvant, rather than the prime cause.* We shall see further on

* Pasteur's theory, which is a development of fact and doctrines set forth by Cagniard de la Tour, Turpin, and Mitscherlich, involves the doctrine of *pan-permatism*, or the universal diffusion of the germs of microscopic animals and plants. The latest doctrine is that of *archebiosis*, set forth with consummate ability by Dr. Chariton Bastian. This affirms the origin of low organisms from decomposing nitrogenous matter; it takes life to be one out of many modes of chemical action capable of being propagated by continuity; ascribes the origin of the yeast plant not to the introduction of germs, but to spontaneous development in the nitrogenous constituents of the grape juice; and explains the absence of fermentation in liquids from which air is excluded, by the simultaneous exclusion of the dead nitrogenous particles floating in the air.

how M. Pasteur's theory explains the diseases of wine.

Well, to resume. The grape juice fermented has become wine. Then it is drawn off into casks, where the fermentation may finish at leisure, so that all the sugar may be consumed, and the nitrogenous matter capable of acting as ferment or as the pabulum thereof may be deposited.

The dangers which wine has to run the gauntlet of arise from unfermented sugar, undecomposed nitrogenous matter, and the germs of the microscopic plants which are found along with it; amongst these are the vinegar plant, and the filamentous growths that constitute the elements of the various wine diseases. Besides this, the excessive action of the oxygen of the air has to be guarded against.

The cares lavished on the wine during its first year, all have the purpose of meeting these calamities. The casks are kept filled; during the first few days they require to be filled up every day, then once a week, and always once a month. The loss of wine is great and constant; Mons. L. told me that let a cask be filled, and but rolled across the yard, there will be found space to fill up. New casks absorb some wine, the wood evaporates from its outer surface, and so it is calculated that a cask of 228 litres loses about one litre per month.

Then the wine, in its first year is submitted to two, three, or four *rackings* or *soutirages*—that is, it is drawn off from the lees into another cask. This is done when the weather is cold and the barometer high, because then the residue of nitrogenous matter has less tendency to rise and mix with the liquid.

Another conservative operation to which the wine is subjected is the *mechage*—i. e., burning a brimstone match in the empty cask to which the wine is to be transferred. This is well known to check fermentation; on the chemical theory it acts by abstracting oxygen; on the *chemico-vital* theory it acts by killing the germs of the yeast plant and vinegar plant, and others which cause wine disease. On the theory of *archebiosis*, it makes the nitrogenous particles stable, and incapable of spontaneously developing life.

Another operation is *fining*; which consists in adding to the wine some matter that shall curdle and contract, and entangle and carry with it to the bottom all floating particles which make the wine thick; and of course, as it clears the wine of particles of ferment, organized or unorganized, so it tends to make it not only bright to the eye, but better able to keep.

It will be seen that filtration through the finest paper is an effective mode of clearing wine of minute germs, and how intimate the connection of *condition*, or brilliancy, is with soundness and wholesomeness. The fine wines of Burgundy are sometimes *frozen* in order to make them deposit excess of coloring or nitrogenous matter, and deprive them of the germs that cause secondary fermentation. Whilst frozen, the concentrated and purified wine is drawn off from the network of watery icicles and impurities which remain in the cask.

The Immigration Association of California has just published an exhaustive pamphlet on Fresno, Tulare and Kern counties. It deals with resources, soil, climate, productions and general advantages of the Southern San Joaquin valley, and also gives particulars of the private, railroad and Government lands that can be obtained.

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It has remained for San Francisco business men to form the first purely accident insurance company ever organized in the United States. The accident insurance companies hitherto known to the public have always combined the accident and life or the accident and fidelity features.

The idea of exclusively accident insurance occurred to Charles Graham while he was reading an old report of an Australian insurance company showing an immense amount of accumulated reserve. He argued to himself that an insurance company so formed, that the patrons of the corporation would derive a direct benefit from the money constituting this reserve fund, would represent the perfection of popular insurance. Out of this idea has grown the "Universal Accident Indemnity Company," of which Mr. Graham is the President and directing head. The company has a capital of \$100,000—of which \$25,000 has been called in, and the balance will be paid up as fast as required—but is organized with the intention of increasing the capital to \$500,000.

The new company is not modeled on the platform statutory plan. The officers are bright and bustling business men, and in this accident insurance hive there are no drones. The motto of the company is: "A Liberal Policy, New Features and Low Rates;" and so confident of success are the promoters of the enterprise that they do not hesitate to challenge the most rigid scrutiny of their system.

The Universal Accident Indemnity Company insures against every kind of personal injury caused by accident, resulting in total disability for a certain period, or death within three months from the time of the accident. Accidents within the meaning of the above are those that occur through external, violent and accidental means only, beyond the ordinary control of the person to whom they happen.

In a legal sense the policy-holders in this company are better off than those holding policies in outside corporations because each stockholder, under the laws of California, is individually and personally liable for such proportion of all its debts and liabilities, contracted or incurred during the time he was a stockholder as the amount of stock or shares owned by him bears to the whole of the subscribed capital stock of the corporation or association.

Another important feature of the Universal Accident Indemnity Company is its methods of paying indemnity claims weekly, and not compelling the insured to wait for their indemnity "until total disability ceases," as other companies do. This is an entirely new, original and exceedingly important feature, as it enables the insured—when prevented by accident to follow his occupation—to meet his current expenses; whereas, by the methods of other companies, he might suffer for ready cash before he received the insurance for which he paid his premium, owing to their not paying "indemnity" until recovery, which, in some cases, might take six months,—the whole indemnity period.

The company gets right down to business in dealing with the masses and makes accidental insurance simple and easy. Its table of "short term" rates is divided into eight classes (same rates for all ages between 18 and 60), and for each class a rate is given. It has been the custom for accident insur-

ance companies to give the first three classes only the benefit of monthly insurance and charging all these the rate of the highest. All classes of higher risk than the third class could heretofore only insure by the year. The Universal gives the rates for each class so that no one can mistake its method of graduating the scale of charges.

There are many novel and interesting features in this first Accident Insurance Company of California, which facilitates accident insurance and brings it within the reach of everybody, from the laborer to the millionaire.

BY AUTHORITY.

FOREIGN OFFICE NOTICE.

Regulations, Superseding those of March 25, 1884, for the Control of Chinese Immigration into the Hawaiian Kingdom.

By virtue of the authority conferred upon me by a Resolution of His Majesty in Cabinet Council passed on the 13th day of July, 1885, I hereby make and proclaim the following Regulations for the admission of Chinese passengers entering this Kingdom:

No. 1. From this date no vessel coming from a foreign country will be allowed to land more than twenty-five (25) Chinese passengers at any port in the Hawaiian Kingdom, unless the passengers in excess of that number are provided with passports entitling them to enter the Kingdom.

No. 2. Passports entitling the holders to return to the Kingdom will be granted at the Foreign Office, Honolulu, to all persons of Chinese nationality now resident, or who may hereafter become resident, on these Islands, who may desire to visit any foreign country, provided always that such persons have been engaged in trade or have conducted some industrial enterprise during at least one year of their residence here. No return passports will be given to Chinese laborers leaving the country.

No. 3. Passports will be granted at the Foreign Office, Honolulu; also by His Majesty's Consul-General at Hongkong, His Majesty's Consul at Shanghai, and His Majesty's Consul-General at San Francisco, to any Chinese women desiring to come to the Islands, and to Chinese children whose parents are residing in the Kingdom, or who may not be of more than ten years of age.

No. 4. Passports entitling the holder to enter the Kingdom will also be granted at the Foreign Office to such persons of Chinese nationality as the Minister of Foreign Affairs may deem it proper to admit to the Kingdom.

No. 5. The fee for any passports issued under this regulation shall be two dollars (\$2.)

No. 6. The holders of passports issued under these regulations must have the same indorsed with the visa of the Consular representative of this Kingdom at any port at which he may embark on his return journey, and also at any port at which he may stay more than twenty-four hours during such return journey.

No. 7. The fee for the Consul's visa of each passport shall be one dollar.

No. 8. All orders and instructions regulating the incoming of Chinese into this Kingdom heretofore made and proclaimed are hereby rescinded, but nothing herein contained shall affect the validity of any passport issued at Hongkong before the proclamation there of these Regulations.

WALTER M. GIBSON,
Minister of Foreign Affairs.
Foreign Office, Honolulu, Sept. 1, 1885.

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G, in diamond, E	"	1 half barrel Brandy	23	51
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"	"	38 barrels Wine	1865	964
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C D Klein, New York	"	50 half puncheons Wine	5671	2439
S, in diamond, Philadelphia	"	3 half puncheons Wine	333	199
A S, Philadelphia	"	5 half puncheons Wine	409	306
J B, Hoboken	"	5 barrels Wine	242	142
S A, Philadelphia	"	0 half puncheons Wine	487	280
H, in diamond, New York	"	31 barrels Wine	1524	728
"	"	3 half barrels Brandy	66	165
F A, New York	"	25 barrels Wine	1212	485
G, in diamond, New York	"	30 barrels Wine	1459	669
E L, New York	"	15 barrels Wine	743	315
P L, New York	"	8 barrels Wine	393	206
L P, New York	"	25 barrels Wine	1191	477
M & B B, Paterson	"	3 barrels Wine	148	143
"	"	1 barrel Brandy	48	101
F S, Cleveland	"	1/2 barrel Brandy	22	52
"	"	6 barrels Wine	295	206
B D & Co., New York	B Dreyfus & Co.	185 barrels Wine	8513	4020
B B, New York	"	10 barrels Wine	464	180
K, New York	"	50 barrels Wine	2328	1650
H B, New York	"	19 barrels Wine	932	475
"	"	1 barrel Brandy	41	100
W M, Washington, D C	"	5 barrels Brandy	238	559
C A L, Baltimore	"	6 puncheons Wine	1200	600
"	"	4 barrels Wine	174	165
B & J & Co., New York	Williams, Dimond & Co	10 barrels Wine	474	165
F, in diamond, New York	S Lachuan & Co.	25 barrels Wine	1164	465
M T, Baltimore	Walter, Schilling & Co	4 barrels Wine	189	113
A V Co, New York	"	50 barrels Wine	2436	1218
W B T, Maine	Kohler & Van Bergen	1 1/2 casks Wine	33	25
P, in diamond, New York	J Gundlach & Co	5 barrels Brandy	222	421
K & F, New York	Kohler & Frohling	260 barrels Wine	13611	7600
"	"	16 casks Wine	727	480
T, in triangle, Albany	"	15 barrels Wine	478	310
K, in triangle, New York	"	10 barrels Wine	478	310
Total amount of Wine			61749	\$29579
Total amount of Brandy			798	1770

TO MEXICO.

A O & Co, Manzanillo	Thannhauser & Co	10 packages Claret	160	\$ 72
A H & Co, Acapulco	Urruela & Urioste	10 cases Wine	50	30
P M O, Acapulco	L F Lastreto	1 barrel Wine	29	23
"	"	2 cases Wine	10	8
R B, Manzanillo	Cabrera, Roma & Co	1 barrel Wine	34	28
A D & Co, Acapulco	J Calre	5 boxes Wine	30	15
Total amount of Wine			313	\$177

TO CENTRAL AMERICA.

J Lowenthal, Corinto	Carroll, Abrams & Carl	1 case Whiskey	5	22
G B, San Jose de Guatemala	Schwartz Bros	12 cases Whiskey	120	120
"	"	2 kegs Wine	45	45
J P L, Corinto	J W Grace & Co	10 cases Wine	30	50
M C, La Union	Urruela & Urioste	3 kegs Wine	30	30
N W, La Libertad	"	5 kegs Wine	100	100
"	"	12 cases Whiskey	108	108
P F E, La Libertad	John T Wright	4 1/2 barrels Wine	80	100
"	"	3 kegs Wine	30	35
B & Co, La Libertad	"	12 cases Whiskey	108	108
P O, La Libertad	"	12 packages Wine	150	102
Total amount of Wine			465	\$462
Total amount of Whiskey, 36 cases and			5	358

TO LONDON.

Miss T Drake, London	Williams, Dimond & Co	1 1/2 barrels Wine	25	25
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TO HAMBURG.

Paul Vichman, Hamburg	Henry Balzier & Co	2 cases Wine	101	10
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TO PANAMA.

J P, Panama	Jose Revello	4 1/2 puncheons Claret	248	86
"	"	6 boxes Wine	15	13
Total amount of Wine, 6 boxes			263	\$100

TO HAMBURG—Per British Ship Thorva, September 4th.

M, in diamond, Hamburg	Michelsen, Brown & Co	10 cases Wine	25	\$ 60
H W Paulsen, Altenbruch	Walter, Schilling & Co	1 keg Wine	10	10
C Herrman, Culmbach	"	2 kegs Wine	34	34
S Koch, Stuttgart	"	1 keg Wine	21	21
Capt H Rascher, Ulgesack	"	1 octave Wine	26	19
H Koster, Mackoldendorf	"	2 barrels Wine	97	72
Ant Einbeck, Hanover	"	1 case Wine	5	4
J D Malms, Bremen	Muecke & Co	1 case Wine	5	5
A F Allvren (France)	B C Auger	6 barrels Wine	178	100
W R, Hamburg	Wolff & Rheinhold	2 1/2 barrels Wine	52	56
P N, Hamburg	"	1 1/2 barrels Wine	26	25
H Levison, Hamburg	Pearl, Shell & Co	12 cases Wine	60	62
Anna Braunschweiger, Steinwig	Kohler & Frohling	4 cases Wine	20	16
Bertha Jordan, Heinrich Street	"	3 cases Wine	15	15
H R & Co, Hamburg	J Gundlach & Co	5 1/2 barrels Wine	97	77
"	"	2 cases Wine	10	12
Paul Wohl, Hamburg	Carl Hansen	6 barrels Wine	146	100
"	"	2 cases Wine	10	10
Hansen, Hamburg	"	4 cases Wine	20	20
W F & Co, Hamburg	Kohler & Frohling	25 packages Brandy	523	740
Total amount of Wine			857	\$713
Total amount of Brandy			523	740

MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	RIG.	GALLONS.	VALUE.
Tahiti	Raiatea (German)	Steamer	59	\$ 32
China	City of New York	Steamer	412	266
Japan	City of New York	Steamer	438	269
Honolulu	Planter (Hawaiian)	Steamer	60	57
Gnaymas	Newbern	Steamer	458	404
Honolulu	Alameda	Steamer	581	550
Total shipments by Panama steamers			63,738 gallons	\$32,481
Total shipments by other routes			3,391 "	3,031
Grand totals			67,126	35,512

Important Vine Stocks

FOR SALE.

FOR SALE A LIMITED NUMBER OF CUTTINGS FROM CAREFULLY SELECTED Choice Wine Vines. The original stocks were imported from the most famous French Vineyards at great expense.

Cabernet Sauvignon, imported from Margaut, Lafitte and Chateau Brown — Cantenac. This vine produces the highest class Bordeaux wine (claret).

Price per M.....\$25 Price per 100.....\$3

Cabernet Franc, from the above vineyard. A high grade claret variety.

Price per M.....\$25 Price per 100.....\$3

Verdot and Verdot Colon, also renowned for Clarets.

Price per M.....\$20 Price per 100.....\$2.50

St. Macaire, from the Palus District, Medoc. A strong, thrifty vine with great bearing powers, yielding a wine of intense color and of a true Claret type. Ripens early.

Price per M.....\$50 Price per 100.....\$6

Gros Mancin, from the same locality. A great bearer; the wine is of great color and quality. Ripens later than the St. Macaire.

Price per M.....\$50 Price per 100.....\$6

Franc Pinot, from Vongeoit and Beaune in the Bourgogne. Is a fair bearer and yields the most famous wines of Burgundy.

Price per M.....\$40 Price per 100.....\$5

Pinot Pernand, from Beaune. A good bearer, giving a wine of a high class Burgundy character.

Price per M.....\$40 Price per 100.....\$5

Gamai Teinturier, from Beaune. A fine bearer, ripens as early as the Pinot and gives a wine of great color and of high value for blending.

Price per M.....\$15 Price per 100.....\$2

Tannat, imported by Mr. Wetmore from Madiran. Is an extremely heavy bearer producing a wine of fine color, great quality and tannin and possessing remarkable keeping powers.

Price per M.....\$35 Price per 100.....\$4

Petite Sirrah, giving a wine of intense color and great quality. Imported from the Hermitage.

Price per M.....\$20 Price per 100.....\$2.50

Semillon, from Yquem. A good bearer, ripens early and produces the most renowned Chateau Yquem.

Price per M.....\$20 Price per 100.....\$2.50

Sauvignon, from Yquem. Enters into the best known wines of the Sauterne.

Price per M.....\$25 Price per 100.....\$3

Merlot, from Chateau Brown.

Price per M.....\$20 Price per 100.....\$2.50

Also a limited number of cuttings of the Champagne varieties — Pinot Blanc, Chateau Blanche, Petit Bouschet, Alicante Bouschet, Marsanns, Grosser Blauer, Meunier, Teinturier Male, Folle Blanche, Kadarkas Noir, and many other fancy table varieties.

Cuttings of ordinary wine varieties at from \$2 to \$3.50 per M. All cuttings from healthy vines and carefully packed. Length, 18 inches between terminal buds.

For the more choice varieties only early orders can be filled, and prices can be obtained on application.

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DUNFILLAN, GLEN ELLEN,

SONOMA COUNTY, CAL.

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John Osborn Son & Co.

NEW YORK.

(FOUNDED 1836.)

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Correspondence solicited with Winemakers throughout the State, and also all California Fruits and General Produce.

We handle all goods as we receive them, and it is the object of all shippers to ship only such wines, and that will establish a reputation. As sole agents for PIPER HEIDSIECK and PIPER SEC CHAMPAGNE, Importations for the last three years were 125,000 Baskets, or more than three times the importations of all other brands imported to the Pacific Coast.

REAL ESTATE.

In the MERCHANT will be found the advertisements of the Central Pacific Railroad, W. P. Haber of Fresno, Guy E. Grosse of Santa Rosa, Frost & Gilman of the same place, Moulton & Co. of Healdsburg, T. H. Cordell & Co. of San Jose and San Francisco, all of whom have choice vineyard lands for sale.

They have placed on file a list of such lands at this office, in order that all persons desirous of purchasing vineyards may be enabled to inform themselves of lands to be disposed of before taking a trip up the country,

By such means it is intended to make the MERCHANT office of assistance to those intending to embark in viticulture, and all pamphlets and information will be freely tendered to those who call there. It is desired that the public should look to the MERCHANT for all information concerning grapes and wine.

From Mr. W. P. Haber, Manager of the Fresno Land Office, we have received descriptive pamphlets of Fresno county, which contain a sample list of properties for sale at that office. They vary in extent from two to six hundred and forty acres, and in price from \$15 an acre upwards, and comprise city and suburban lots. Mr. Haber is the Fresno agent for the Pacific Coast Land Bureau of San Francisco.

We now have particulars of 25 additional properties in the vicinity of Santa Rosa and Sebastopol, Sonoma county, that are offered for sale, from 17 to 1,300 acres each, at prices ranging from \$175 up to \$26,000, according to size, location and improvements. The properties are situated close to the railway line, planted in orchard, vineyard, have been used for general farming or are ready for the plow. Most of them have commodious dwellings and out-houses and would be valuable investments for intending settlers.

Messrs. T. H. Cordell & Co. of San Jose and this city, whose advertisement appears elsewhere, offer for sale several lots, from 10 to 80 acres each, of improved vineyard lands in Santa Clara valley. They have also orchards planted with the choicest varieties of fruit trees, and orchard lands for sale.

Mr. Geo. M. Thompson of Healdsburg, Sonoma county, is agent for the sale of the Bernel Winery and three acres of land close to the center of the town and the railway. The cellar has a capacity of 40,000 gallons with every facility for enlargement at little expense. On the premises is a saloon where the wines are retailed; the buildings are complete in every detail and fitted with the latest and most improved machinery and conveniences. The price is very reasonable and the owner intends to establish a vineyard in the immediate vicinity.

A Cheap Vineyard.

70 Acres--5 Miles from Gilroy.

60 ACRES IN VINES; 20,000 OLD MISSION, healthy and bearing well, could be easily grafted with new varieties; balance of vines, 1, 2, 3 and 4 years old, choice varieties. Splendid location, soil well adapted to grapes.

Also Winery, Distillery, farming implements and span of horses. Owner wants to go to France. Price, \$11,000.

E. S. HARRISON, Gilroy, Cal.

ACME Steam-Heat Fruit EVAPORATORS.

A NEW PROCESS FOR THE PRESERVATION OF Fruit through the use of steam. Absolutely no danger of fire. Exact evenness of heat and ventilation throughout the machine. No changing of trays necessary while fruit is curing. Five sizes, either iron or wooden machines, as desired. Send for full descriptive catalogue.

Batchelor & Wylie, 37 Market Street, San Francisco, Cal.

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ALEX. FRIES' & BROS. COGNAC OILS, ESSENCES AND FLAVORS.

313 SACRAMENTO ST. San Francisco.

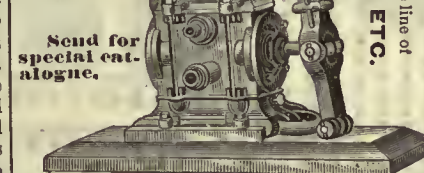
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BUILDERS OF STEAM MACHINERY IN ALL ITS BRANCHES. Steamboat, Steamship, Land Engines and BOILERS, High Pressure or Compound.

STEAM VESSELS of all kinds built complete, with Hulls of Wood, Iron or Composite. STEAM BOILERS. Particular attention given to the quality of the material and workmanship, and none but first-class work produced. SUGAR MILLS AND SUGAR-MAKING MACHINERY made after the most approved plans. Also, all Boiler Iron Work connected therewith. PUMPS: Direct Acting Pumps, for Irrigation or City Water Works purposes, built with the celebrated Davy Valve Motion, superior to any other Pump.

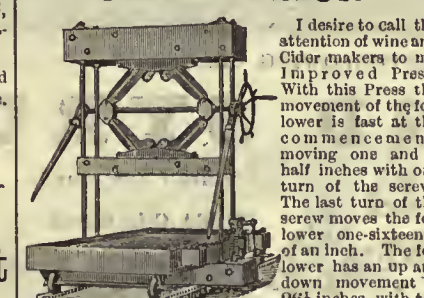
WOODIN & LITTLE'S WINE PUMP.

This cut represents our Double Acting FORCE PUMP of great compactness, for use in wine cellars, for pumping from one tank into another. The cylinder is lined with copper, the piston rod with bronze, so that it will be seen all parts of the pump exposed to the action of wine are non-corrosive.



WOODIN & LITTLE, 509 & 511 Market St., San Francisco, Cal.

WORTH'S IMPROVED PATENT Combined Toggle Lever AND SCREW PRESS.



I desire to call the attention of wine and Cider makers to my Improved Press. With this Press the movement of the follower is fast at the commencement, moving one and a half inches with one turn of the screw. The last turn of the screw moves the follower one-sixteenth of an inch. The follower has an up and down movement of 2 1/2 inches, with the double platform run on a railroad track. You can have two curbs, by which you can fill one while the other is under the press, thereby doing double the amount of work of any other press in the market. I also manufacture Horse Powers for all purposes. Engine Cutters, Plum Pitters Worth's System of Heating Dairies by hot water circulation. Send for circular. W. H. WORTH, Petaluma Foundry and Machine Works, Petaluma, Sonoma County, Cal. Testimonials from I. DeTurk, Santa Rosa; J. B. J. Parial, San Jose; Ely T. Sheppard, Glen Ellen; Kate E. Warfield, Glen Ellen; J. H. Drummond, Glen Ellen; Joseph Walker, Windsor; John Harkelman, Fulton; Wm. Pfeffer, Gubserville can be had by applying for printed circulars.

Winery For Sale. THE BERMEL WINERY, And Three Acres of Land,

SITUATED CORNER WEST AND GRANT STS., Healdsburg, Sonoma Co., Cal. On Line of S. F. & N. P. R. R.

Cellar under ground--capacity 40,000 gallons--capable of being enlarged to any capacity at small cost. Outfit complete to carry on the business. Dwelling and out-houses in good repair. Location most desirable in the State.

For further particulars apply at the office of the S. F. MERCHANT, or to

GEO. M. THOMPSON, Agent, Healdsburg, Cal.

MOULTON & CO., REAL ESTATE,

MONEY AND INSURANCE BROKERS, HEALDSBURG, SONOMA CO., CAL.

A large quantity of the FINEST GRAPE LANDS in the County are now in the hands of this Company for sale.

A list of Russian River bottom lands and red gravelly hill lands SPECIALLY ADAPTED TO VITICULTURE, will be forwarded on application.

Buyers should visit Healdsburg before settling elsewhere.

Office in the Sotoyome Hotel. Healdsburg. For further particulars apply at the office of the S. F. MERCHANT, 323 Front street, San Francisco.

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OFFICE 529 1/2 FOURTH STREET, Santa Rosa, Cal.

Farms and Stock Ranches for sale and to exchange for city property. VINEYARD LANDS A SPECIALTY. A list of properties particularly adapted to Grape Culture forwarded on application, and on file at the office of the S. F. MERCHANT, 323 Front street, San Francisco.

FRESNO LAND OFFICE. Choice Farming, Fruit and Vineyard lands Improved or Unimproved.

With or Without Water for Irrigation. FOR SALE, IN SMALL OR LARGE TRACTS, Terms Easy.

For maps, circulars, etc., call on or address W. P. HABER, Manager, Fresno, Cal.

Or PACIFIC COAST LAND BUREAU, 22 Montgomery St., S. F.

A. 1876 S. I. XII. I. S. 1888 G. The Industrious never Sink. GUY E. GROSSE, Broker in Real Estate Ranches, Residence, Business and Manufacturing Property Bought and Sold on Commission. Also Publisher of "Sonoma County Land Register and Santa Rosa Business Directory." Office, No. 312 B St., SANTA ROSA, CAL.

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H. W. BYINGTON, CITY STABLES FOURTH STREET, Santa Rosa, Sonoma Co., Cal. Carriages and teams at reasonable terms to all persons visiting the vineyards of the valley.

THE REPORT OF THE THIRD ANNUAL

State Viticultural Convention.

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THERMOMETER AND BAROMETER COMBINED For use of Silk Raisers.

Free by Mail, only 75 cents.

I will be pleased to give information to correspondents who apply by letter, inclosing two cent stamp for reply.

Specimen Boxes of Cocoons and Hatched Silk, 25 cents.

None but articles of the first quality sold.

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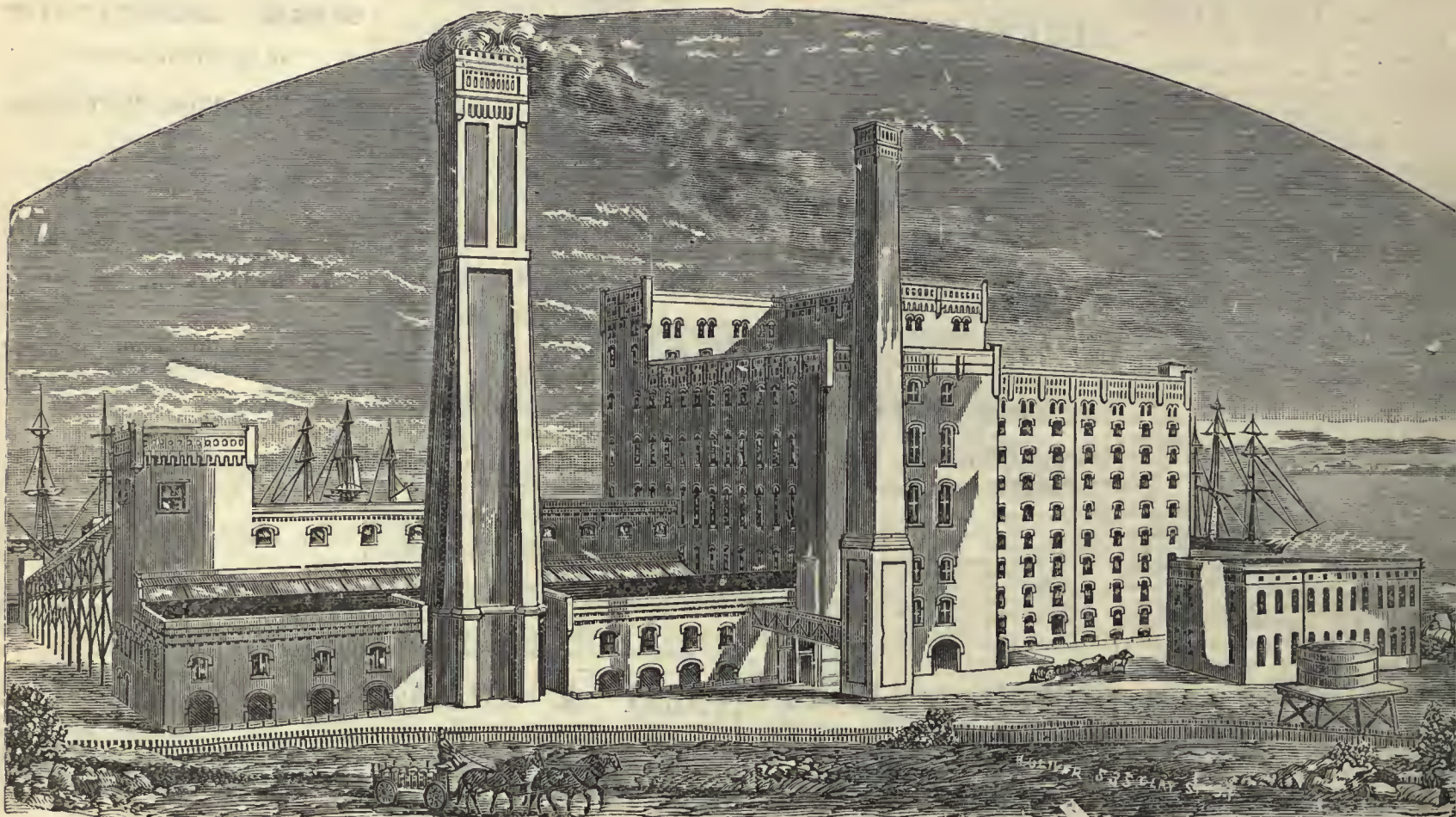
New Lisbon, Burlington Co., New Jersey

Money Orders and Postal Notes to be made payable at PEMBERTON, P. O., New Jersey,

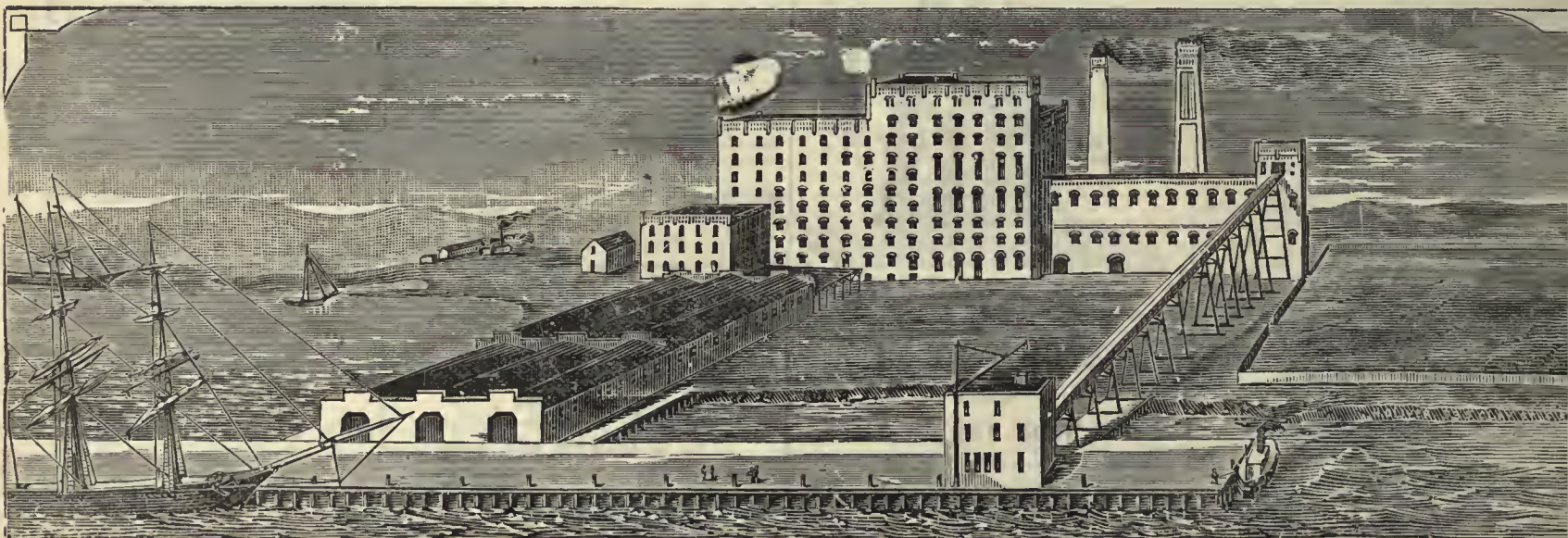
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OFFICE 327 MARKET STREET.

West View of the New Refinery Building.



VIEW FROM SAN FRANCISCO BAY



—MANUFACTURES THE FOLLOWING GRADES OF—

SUGAR AND SYRUP:

- Pent CUBE SUGAR in barrels and bags
- (A) CRUSHED SUGAR
- Extra POWDERED SUGAR in barrels
- Fine CRUSHED SUGAR in barrels
- Dry GRANULATED SUGAR in barrels
- Extra GRANULATED SUGAR in barrels



- GOLDEN C in barrels
 - EXTRA C in barrels
 - HALF BARREL, ¼ cent more
 - BOXES, ½ cent more
 - SYRUP in barrels.
 - Do. in half barrels.
 - Do. in 5 gallon kegs.
 - Do. in tins, 1 gallon each
- } For all kinds

The Products of the California Sugar Refinery and guaranteed absolute pure and free from all Chemicals and Adulterations.

The Contest Settled.

The Documents Speak For Themselves.

Below We Publish the Awards as Given Diploma, Gold Medal and Special Mention.

HIGHEST AWARD

- AT THE -

New Orleans Exposition

- TO THE -

ANTISELL PIANOS

- OF -

SAN FRANCISCO, CAL.

IT WILL INTEREST THE MUSICAL PUBLIC AND persons interested in the purchase of Pianos to read the following Jury's award and congratulation of the United States Commissioners at the New Orleans Exposition to the T. M. Antisell Piano Company of San Francisco, Cal:

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION.

NEW ORLEANS, May 29, 1885.

MESSRS. T. M. ANTISELL PIANO CO.—GENTLEMEN: At the closing of the World's Industrial and Cotton Centennial Exposition, allow us to congratulate you on your success in being awarded the highest award of merit for your Pianos over all American and foreign exhibitors and competitors. That a California manufacturer should win the first prize for the Best Piano in the World we consider well worthy of mention by United States Commissioners of this Exposition.

- | | | | |
|---|---|---|--------------|
| Frank Bacon, Prest, Bd. U. S. Com., Kansas. | " | " | Idaho. |
| George L. Shroup, " " " | " | " | Nebraska. |
| Robt. W. Furnas, " " " | " | " | Ohio. |
| John C. Keffer (acting), " " " | " | " | Dakota. |
| R. E. Fleunung, United States Com'r, " " | " | " | Montana. |
| John S. Harris, " " " | " | " | Oregon. |
| E. W. Allen, " " " | " | " | Arizona. |
| F. M. Murphy, " " " | " | " | Michigan. |
| F. W. Noble, " " " | " | " | Florida. |
| W. H. Sebring, " " " | " | " | N. Carolina. |
| P. M. Wilson, " " " | " | " | New York. |
| J. C. Truman, " " " | " | " | Alabama. |
| E. Spencer Pratt, " " " | " | " | S. Carolina. |
| E. J. Koche, " " " | " | " | Louisiana. |
| C. L. Barrow, " " " | " | " | Wyoming. |
| Henry Merrell, " " " | " | " | New Mexico. |
| P. Langhammer, " " " | " | " | |

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION. SITION. NEW ORLEANS.

JURY REPORT

Application No. Special. Group..... Class.....

COMPETITION.

The undersigned jurors in the above entitled class having carefully examined the exhibit made by the ANTISELL PIANO COMPANY OF SAN FRANCISCO, CAL., and all competing exhibits, concur in recommending the award of a FIRST-CLASS MEDAL AND DIPLOMA, THE HIGHEST AWARD OF MERIT FOR PIANO EXHIBIT FOR STRENGTH, DURABILITY, EXCELLENCE OF TONE, AND FOR THE SUPERIOR QUALITY OF LUMBER USED IN THE CONSTRUCTION.

Dated this 27th day of May, 1885. JAS. C. TRUMAN, FRANK BACON, GEO. L. SHROUP. } Jurors.

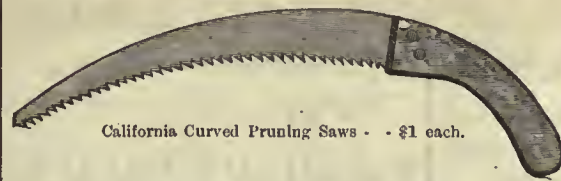
It will be observed that the President of the United States Board of Commissioners, Governor Bacon of Kansas, was also a member of the jury that gave the Antisell piano award; also Colonel Truman of New York and Colonel Shroup of Idaho. These gentlemen not only signed our jury report, but also the special mention. We thus give positive proof of our victory. Four other awards are claimed by piano manufacturers, but we have never seen any evidence of their premiums, not even to the value of a leather medal—simply their own assertion. False telegrams and publications from New York won't humbug Californians. It won't do to say that the Antisell pianos were not entered for exhibition or competition. No piano could be got into the exhibition unless regularly entered. New York manufacturers are trying to break down our awards, as they don't like to see San Francisco carry off the honors.

T. M. Antisell Piano Co.

24 TO 28 ELLIS ST., S. F.

PACIFIC SAW MANUFACTURING CO.,

17 & 19 FREMONT ST. San Francisco Cal.



California Curved Pruning Saws - \$1 each.

SAWS OF EVERY DESCRIPTION On Hand and Made to Order. — AGENTS FOR — **C. B. PAUL'S FILES** Repairing of all kinds done at short notice.

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— MANUFACTURERS OF THE —

CELEBRATED CUBE SUGAR, SUPPLIES ONLY EXPORTERS AND THE JOBBING TRADE.

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EDWIN L. GRIFFITH, SECRETARY.

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WHALE OIL SOAP.

ESPECIALLY ADAPTED FOR VINEYARDS AND FRUIT ORCHARDS.

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— MANUFACTURERS OF ALL KINDS OF —

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5-GALLON KEG TO A 160-GALLON PIPE OR PUNcheon.

Our machinery enables us to execute all orders with promptness and economy. Price List on application.

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INSURANCE COMPANY

OF CALIFORNIA.

THE LARGEST PACIFIC COAST COMPANY.

CAPITAL, - - - - - \$750,000
ASSETS, DEC. 31, 1884, - - - - - \$1,500,000

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WILLIAM J. DUTTON, Secretary,

ALPHEUS BULL, Vice-President;
E. W. CARPENTER, Assistant Secretary.



For sale to the city and country trade in lots to suit.

MACONDRAY & CO.,
204 and 206 Sansome St

CALIFORNIA VINEYARDS:

KRUG CHARLES, Krug Station, St. Helena, Napa Co., Cal. Producer of fine Wines and Brandy.

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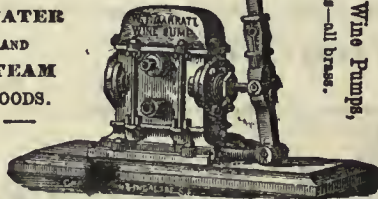
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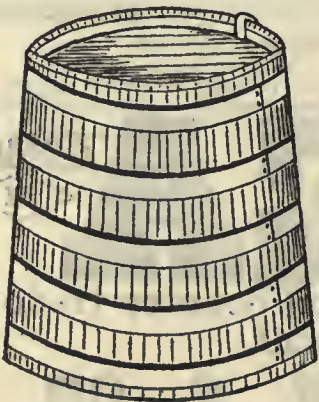
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VOL. XIV, NO. 13.

SAN FRANCISCO, OCTOBER 9, 1885.

PRICE 15 CENTS.

THE LOUISVILLE EXPOSITION.

INTERESTING CORRESPONDENCE FROM MR. POINDORFF.

Writing from Louisville on 19th September, Mr. Poindorff says: "Some peaches of Mr. Thomas of Visalia, which came to the collective grape growers' stand, excite admiration on the part of the visitors. It is a different thing to place fresh fruit before the people from having them preserved. But, after all, what is like Mr. Drummond's display of 119 kinds of foreign grapes from his vineyards. The Napa Valley Wine Company's new supply of wines has arrived; some of the cases have been tampered with on the road, but Mr. Turrill is rigidly inquiring into this infraction of rules. (This danger might be materially obviated in future by placing a little hoop iron round the corners of the cases.—ED. MERCHANT.) I hope that fresh grapes will come forward in abundance as they will be a mighty factor for me to work upon because people can then see the difference between the sylvan grapes which they eat, and our noble produce. Mr. George West's case has arrived; his wines and brandies are beautifully gotten up and have excited admiration both for their quality and appearance. I may compliment friend West on the taste he displays in his exhibits; he has, of course, allowed me to sample the wines and brandies to connoisseurs. I did not see the 1879 brandy of Mr. West that gave such high satisfaction at our last State Convention, but I doubt not he has sent samples that will do honor to California. I received 1883 and 1884 brandies of the Sacramento Vineyard Proprietors Company; sampling the 1884 to some connoisseurs they found it to be remarkably clean and of sound wines well distilled. We have many visitors, and among them more than one sensible lady who wishes to see a good table wine, Zinfandel, and after finding merit in that wine will see a dessert wine, sweet Muscatel or other aged sweet wines which tickle the palate pleasantly. More than one visitor has come unasked to say that the Southern Pacific Company's exhibits of California produce are the richest and most remarkable show. All honor to the Railroad Company which acts, even if in its own interests, most generously on behalf of the producers of California as well."

September 22nd.

"Wines have arrived from Mrs. Ellen Stewart of Glen Ellen. I have had the pleasure to see, amongst others, Mr. T. M. Gilmore, the local Manager of *Bonfort's Wine and Spirit Circular*. He studied the admirable collection of preserved grapes from Mr. Drummond's vineyard, and sampled several dry white wines. Several medical men have also studied our wines, tasting them and obtaining information concerning them. Wine is as strange to the average visitor as if it were precious stones you spoke of. Whisky is King here and there is only one means of entering the Kingdom by showing practically that, at a moderate price, wine is as legitimate a beverage as tea or milk or water. On the other hand I meet with many a bright instance of knowledge of the true inwardness of wine, and I am glad to say that ladies are among the representatives of that simple knowledge which education seems to have hidden from people generally. Anxiously I await the arrival of grapes for these will be the best demonstration, to the thousands, of our viticultural progress. Mr. Turrill has started for New Orleans but will return in a few days. He is a most efficacious man, and what he can do for us he does. Naturally, therefore, I fill his place in explaining as well and gladly as I can during his absence."

September 24th.

"I am glad to say that there are people interested in the wine business who are coming for information and they get impressions of the right kind. Still, I wish to get a hundred visitors for every ten that come at present. However, our grapes, raisins and wines are well represented and I get an auditory quite numerous so that good is being done. The German press here has taken notice of our exhibits and I had an explanatory tasting with the editor. Col. Leoser, of *Bonfort's Wine Circular* of New York, is expected, and he is a connoisseur of wines and liquors. The peaches from Visalia, sent on 11th September are still fresh and good and attract much attention."

September 27th.

The Secretary Louisville Exposition Viticultural Committee, San Francisco: DEAR SIR:—While feeling elated with the opportunities of placing our wines and brandies before many visitors of the Exposition daily

and the good impression the product of our vineyards gives, I am greatly disappointed by the non-arrival of grapes and of wines announced as shipped even 14 days ago. The delay thus far is not accounted for. To-morrow morning some boxes will come in, the advice from the railroad station of them having been given Mr. Turrill yesterday p. m. I regret sorely that the boxes containing the S. F. MERCHANT, 2,000 copies, for distribution have not come to hand yet. The diffusion of knowledge of our viticulture through the medium of these copies of the 11th inst. would have been great and most opportunist, had they arrived, as they ought to, by the 19th. Those papers would have materially assisted me, inasmuch as I have not had the satisfaction of the daily press of Louisville once mentioning California viticultural products, or the fact that members of the press have tasted and are continuing to taste our wines and brandies and verbally expressing their acknowledgment of finding quality in them. I must except the German daily, the *Anzeiger* of Louisville, which does justice to our department of the Exposition and speaks with intelligence and rectitude and without prejudice or mercenary considerations of the wines tasted at the collective grape growers' stands.

The technical paper of New York, *Bonfort's Wine and Spirit Circular*, represented here by Mr. T. M. Gilmore, will contain particulars of our exhibits, as that gentleman has with interest sampled several wines and will continue to study others. Last night Colonel Leoser, of the same journal and an acknowledged wine authority in New York, did me the honor to go through several wines and brandies, and promised during his stay here to repeat these tests. I am extremely glad of this opportunity, for the practical investigations on the part of men like Col. Leoser, the same as other gentlemen, who are connoisseurs and unprejudiced in their opinions on *producers* wines and brandies, are undoubtedly of higher practical value than the verdicts of juries discerning medals to a very limited number of exhibitors who aspire to that honor. What good is done to California viticulture, when, as was the case in New Orleans, two concurrent exhibitors, the only ones whose liquids came before the jury, gained medals and distinctions which, comparing the medaled beverages with those of any of the many exhibited here, are really ludicrous

honors? I shall abstain from reporting for the present the opinions of some connoisseurs, of wines and brandies tasted. They involve both criticism and praise. I may mention however that I had to bow before the judgment of a lady, who with the said gentleman and others examined our beverages scrupulously. Surely the delicate organs of smell and taste of ladies who have educated them, are at least as correct as those of the opposite sex. I hope that one has not to go to Kentucky for meeting lady tasters, but that in our State there will be ladies who are competent judges of wines just as we have ladies viticulturists, and successful ones, there.

It will be of interest to know that the fresh peaches exhibited in our department, sent September 11th by Mr. Thomas of Visalia, are still fresh and continue to attract visitors. The keeping quality of that fruit seems to astonish people. What a pity that valuable time has been lost in the transit of fresh grapes, both for showing them to the thousands who visited our stands since the grapes ought to have arrived, and to observe the keeping power of them. The dry climate in which our fruit grows seems to have the effect of giving the fruit the keeping quality, which is a vast advantage over fruit of other States.

Replying to the question, if there is real utility for California viticulture in my mission, I may say that the fortnight passed here has been taken advantage of and the number of people who had thus the opportunity of seeing and tasting the pure articles California produces, is, if not thus far as large as I should have desired, still considerable. The information given on vine and wine matters wherever it falls on good ground, is a help and that perseverance in this regard will do something towards popularizing our wines. I shall do my best to follow up, and with greater effect, the work begun. As said before, I count upon the early arrival of the delayed papers, wines and grapes. The latter will double the visitors at the stands and give scope to reaching more people who are desirous of information.

The ideas about wine on the part of rural visitors, which on certain days are very numerous, are crude, and limited to a sweet liquor. Sherry and Port are better known than Clarets and white wines. Citizens of German descent express the desire of tasting the latter. Ives seedling wine is what

they generally compare with them, as that grape seems among them to be a favorite for cultivation and wine making. Gentlemen of culture mostly ask for Clarets and many of them examine ours quite closely, weighing in their mind the comparableness with French Clarets. The majority of ladies wish to taste dessert wines. Sweetness in a wine seems essential to them. Still, many a lady I meet asks to see a table wine. Medical gentlemen as a rule look for old Claret or Port, searching for aged wines that serve as tonics and builders up of run-down systems of patients. The mechanics ordinarily have no choice; California wine is a compact expression and I have to prove to them that a good dry red or white wine and likewise a Sherry can be of pleasant taste, which is generally voluntarily expressed. Brandy appears to be a surprise to many a one who is of belief that whisky is the only distilled beverage in existence.

The question, if the wines, etc. shown can be obtained either at the stand or in Louisville, is asked in one case out of three examining visitors. The advisability of a depot in Louisville of wines from our producers—or dealers—is manifest. This city has of course established businesses which receive wines from California dealers. But the aggregate of wines from our State which reaches the public here, cannot be but a fraction of what it could and ought to be, if the establishment of a grower's depot would be taken in hand. This would serve for the practical demonstration of our product being possessed of excellent hygienic properties, and with the guarantee of absolute purity and selling at a moderate profit our wines would soon be popularized. For one of the great drawbacks to this latter effect is the high price at which the merchandise, bought at moderate prices, is resold here as elsewhere.

Conversations I had with gentlemen here, not connected with the wine trade but fully persuaded of the exactness of our general views on wine matters, seem to elicit the confirmation of the hope that such a step would be excellent and patronage not be wanting, especially when what is considered necessarily an article of luxury, good ordinary wine will be made accessible at reasonable prices to everybody. As to the practical and commercial aspect of the matter I have sought no opportunity of investigating it. Superficial mention to one or the other person I made and there may seem feasibility of an undertaking on an initiative and small scale. A small beginning, embracing also a retail sale place, would show if success can be obtained, and if so, local capital might desire to engage in an extensive warehouse concern in conjunction with California growers. Louisville is a commercial center of importance, and if the fact will be shown that our wines are accepted by the public at reasonable prices, leaving a legitimate moderate profit, capitalists may not be disinclined to invest in them, as they readily do in whisky and in enormous sums as advances. The President of the Exposition convoked the exhibitors who paid the fee which entitles them to compete for prizes. As far as I know Mr. Jarvis of San Jose and Mr. J. H. Drummond are inscribed as such. Messrs. Stern & Rose, whose case of wines to be exhibited and not given to taste to visitors has not arrived, also wish to compete for premiums. Mr. Baldwin, who gained a prize at New Orleans, whose wines we have never seen at our conventions, has none as exhibits here. General Naglee's cases of brandies which were brought here from New Orleans, are inaccessible thus far.

Yours truly,
F. POHNDORFF.

I take occasion yet of adding a few lines. Several people, grape growers of our State, seem to labor under the impression that the Southern Pacific Company discriminates among exhibits or wishes to take all credit of them to themselves. Also that Mr. Turrill would not allow any individual effort to exhibitors. This is a most one-sided view. The work that the Railroad Company performs is of the highest importance to and benefit of the State. The amount of money the Southern Pacific Company spends in the mutual interest, let us say of the Company and the exhibitors and the State generally, must be tens of thousands. The activity displayed by Mr. Turrill in giving and obtaining points, not kept as acquisitions by the Southern Pacific Company,

but liberally disseminated by the California press and to whatever individual interest it may be, is of a high order. Now, I find as to my department every facility, every aid and again all the independence desirable for promoting interests, and cannot conceive how the splendid behavior of the Southern Pacific Company towards every and all exhibitors and those who with ease and without expense wish to be exhibitors, can be misconstrued. The California department of the Southern Exposition is the most vast, the most complete and the most admired one by every visitor, who express their feelings in the latter regard spontaneously. Could the same effect be reached if the State of California were the agent who undertook the whole of the immense organization—or could the Southern Pacific Company's work be surpassed? I claim not. Then why should a feeling of justice not exceed prejudices from party or other feelings and satisfaction with the work of the Southern Pacific Company be expressed openly and generously?

Every producer of California can show in distant States the result of his labor—free of expense. Is this simple fact not a matter of gratitude? Does the work of the Southern Pacific Company not promote the interests of everyone in California in the clearest and best way by opening markets? Well, then, let those who like to grumble, begrudge their own shortsightedness. Pro or anti-monopolism has nothing to do with the facilities given by the Southern Pacific Company to bring before our co-citizens' eyes what our State produces. F. P.

September 28th.

I have just telegraphed you that at last we have this evening in our hands the box of grapes, 5 bunches of Dr. Strentzel: Chasselas Rose, Chasselas Fontainebleau, Sultanina, Ferrara and Muscat. At the same time quite a number of cases of wine, apparently from Mrs. Warfield, 5 kegs from Mr. Crabb and 2 barrels from Glen Ellen and one from St. Helena, all of wine; also one box which I hope contains the MERCHANT came in, which will be unpacked tomorrow. The fact of three barrels, weighing each above 500 pounds, being in the expedition explains the delay of the goods and particularly that of the grapes, for if going on the lines under control of the Southern Pacific Company, by passenger train, evidently at least from Kansas the whole has been trans-shipped to a freight train, as only goods of not greater weight than 200 pounds are admitted on passenger trains, as I understood. As wired, the grapes arrived in fine condition. They were at once put on exhibition in plates, and as they have been expected so long, the press having announced that grapes from California were on the way, drew immediately a great number of people to examine them.

September 29th.

Boxes of wines from Mrs. Warfield were opened and the wines placed on the stands. Messrs. Stern & Rose's box of Port for competition before jury contained four bottles broken and the rest entire.

The wines of Mr. Drummond in barrels I shall have to rack, buying small packages to hold what is not needed here and will go to New Orleans. I have not yet examined these wines, nor those in the kegs of Mr. Crabb.

An attendance at the Exposition to-day of people from the interior calls for sweet wines; the country people admire them.

If Mr. Turrill and myself succeed in obtaining from the Directors of the Exposition a California day, I shall be able to be quite liberal with pony-glasses of the wines to the visitors, and also to distribute vials of samples—as the wines came in yesterday will allow this in the best way for popularizing our wines with the masses who will on that day flock to our stands.

September 30th.

I have just received a telegram from General Naglee authorizing me to sample his brandies, and I am heartily glad of being able to show the oldest brandies of the State. Regarding competition of exhibitors for medals or honors to be discerned by a jury, only Mr. Jarvis of San Jose, and Messrs. Stern & Rose of San Gabriel (for brandy, Trousseau, Port and Angelica) are the parties entered. I have sent copies of the MERCHANT to editors of papers in

prohibition States that they may see what people can do outside their own realm of grandeur and morality.

October 1st.

Some samples of Mr. Husmann's wines which have been at New Orleans, were found to-day in a box which had contained brandy. I have at once added them to the exhibits. Capt. Giusti of Sonoma county, sent a case of old Mission wines, some of 1868 and up to 1878. Mr. Pratt of the *Wine and Spirit Circular* of New York and Chicago was at the stand last night, and we are going into a thorough examination and explanation of different types of our wines, for his paper. Mr. Pratt is a judge of wine.

Quite a number of gentlemen had scrupulous examination of several wines. Chief among them of white wines from Glen Ellen. The cleanness of taste and the light pleasant composition, the aroma of the fruit in the Gutedel and Riesling wines of some years of age surprised people generally, who had the idea that there had always been a sweetish, unclean addition to the taste of California whites. Of course Mission Hocks have in other times frightened consumers of a good palate. Zinfandels from Napa and Sonoma counties were likewise tasted and declared to be really superior to what is generally offered as French claret, for a gentleman's table.

I regret that Santa Clara county is so poorly represented.

General Naglee's oldest brandies in the State are a study to many who are pleased to see grape brandies of many years of development. There are 1880 and 1881 brandies of the Napa Valley Wine Co., which are really fine. There are many other distillates in California not represented here which would likewise show merits, easily found out here by the many judges of whiskies and fruit brandies. What does not reach Louisville, should be sent to New Orleans in the line of brandies.

Yours truly,
F. POHNDORFF.
Louisville, Kentucky, Oct. 1, 1885.

How to Pack Grapes and Other Fruit for Shipment.

Dr. John Strentzel of the Alhambra Vineyards, Martinez, has forwarded to Louisville several shipments of grapes, packed by different methods, for the purpose of ascertaining which is the best and most desirable to use in shipping table grapes. In the first box forwarded the grapes were packed in carbonized bran and comprised the following varieties: Ferrara, Tokay, Muscat, Black Corinth and Sultanina. Sample of Petite Bouschet obtained from Mr. E. B. Smith so that they might be compared with the native red grape varieties. Mr. Pohndorff having telegraphed to us the safe arrival of the fruit in excellent condition, we inquired from Dr. Strentzel how he prepared the carbonized bran, and received the following reply: "Take a good quantity of bran, sifting out the fine particles and toast the residuum as roasting coffee; when cool it is ready for use to fill the space between grapes or any other fruit when packed in a box. This toasted bran should be kept in a close vessel for future use. Previously I used cork dust, the coarse particles of it breaking the skin of the grapes or cherries and imparting a bad flavor, thus proving undesirable. Finely cut wheat straw or chaff is also good for packing apples or pears, still any kind of green fruits keep best with ventilation, without filling the interstices with anything beyond confining the fruit to prevent its moving by the motion when in transit."

Dr. Strentzel, renewing his experiments in shipping grapes, forwarded an additional four boxes on 7th inst. The delay in the receipt of his first shipment, which occupied 17 days in transit, was not without good effect as it has proved that carbonized bran in packing can keep the grapes in good condition for a longer period than was anticipated.

In addition to the subscriptions already contributed for defraying Mr. Pohndorff's expenses, the Livermore Valley Wine Growers Association has contributed \$20.

Mr. E. W. Maslin of Sacramento, has forwarded collections of grapes and other fruit to Louisville.

The California babies, whose photographs secured a prize at the New Orleans Exposition and attracted so much attention there, have become equally meritorious at the Louisville Exposition. There are some twenty or thirty photographs of young California, sent by Mr. I. Taber, whose ruddy and healthy appearance is doing as much to attract immigration as any other of our exhibits. Baby connoisseurs in the East say that if such sturdy specimens of humanity can be raised here, there is not the slightest doubt of the desirability of California as a place of settlement and that other less tender crops must succeed in the same proportion.

The Hawaiian Exhibit at Louisville.

EDITOR S. F. MERCHANT:—Quite graceful is the modest yet complete collection of the Hawaiian Government at the Louisville Southern Exposition. What is placed in that neat little pavilion gives an exact idea of the reality of things and beings on those Islands. The attraction of that beautiful show is deservedly replied to by such visitors, and they are numerous, who know how to distinguish what is of merit and instructive and what is not met with every day. It is both creditable to the Government of the Hawaiian Isles and will prove to be useful in placing the products and sights of King Kalakaua's little realm before the enlightened citizens of the State of Kentucky.

Well executed photographic views and portraits, numbering above fifty, adorn the fronts of exhibits. The fine picture of the volcano, of which a duplicate is seen at the Mechanics' Institute Fair at San Francisco, represents the unique scene as graphically as your people see it there. Collections of sugar numbered for the commercial connoisseur, of coffee, of roots (some 14 kinds), of woods, canes, of toilet articles of the aborigines of the Islands and adornments of quite a tasteful nature, of perfumes, in short quite a descriptive accumulation of objects which each have an interest and excite it in the beholder.

A fine bust of King Kalakaua adorns the pavilion and photographs of the Royal family and prominent people of the Islands are exhibited. Although there is not a large range of products and works of hand there are some which by keeping before the eyes of the public in other exhibitions cannot fail to cause their adoption by purchase, because there is such exquisite delicacy of taste inherent in them that the refined taste of American ladies cannot fail to fix their attention to them, be the value of those articles small from a commercial point of view or not. Some delicious simple jewels will find admirers. There is a most beautiful little necklace of tiny shells. It is artistically considered of infinitely higher merit than many gaudy, costly articles which show off from a distance.

Again, a half hour dedicated in beholding analytically what the Hawaiian Islands show, is a well spent space of time.

F. POHNDORFF.
Louisville, September 16, 1885.

Interesting Inquiries.

Chas. A. Wetmore, Esq., Chief Executive Viticultural Officer, Cor. Bush and Montgomery Streets, San Francisco—MY DEAR SIR:—Please send me the addresses of any local viticultural, horticultural or agricultural societies throughout the State that you may remember. We are organizing a society here and want to get a collection of constitutions and by-laws for comparison.

Could you not come up and look at our county and address our people during this season at some time? We could assure you a large audience and a pleasant time.

Please send me your report for 1884-5, also the proceedings of the last Viticultural Convention if it has ever been printed.

Very respectfully yours,
EUGENE B. CUSHING.

Redding, Cal., Sept. 30, 1885.

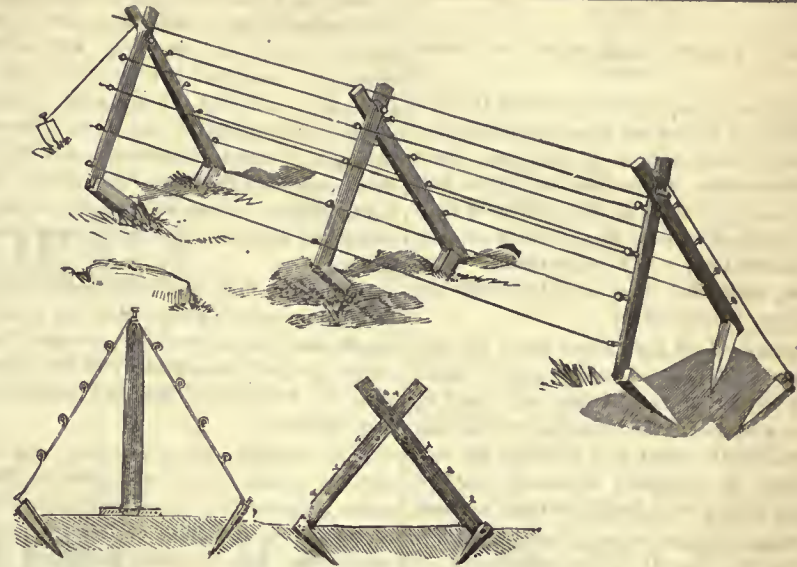
There are Viticultural Societies or Clubs at Healdsburg, Glen Ellen, Cloverdale, Napa, St. Helena, Cupertino, Santa Clara, Los Gatos, Fresno, Livermore, Sonoma, Washington Corners in Alameda County. We feel sure that the Secretaries of some of the above clubs will oblige Mr. Cushing with the information he desires.—[ED. MERCHANT.]

TANNIC WINE.

It is known to all wine makers that after wine has been fermented on the pomace and drawn off there still remain more or less valuable properties in the pomace which has been pressed out, such as color, flavor and tannin. The tannin, which is so much appreciated as a preservative of young wines, chiefly resides in the outer coating of the seeds and in the skin. This tannin is easily dissolved in an alcoholic solution. Those who leave their wine to rest on the pomace some time after the fermentation has finished derive more tannin thereby as well as color, if making red wine. There is, however, considerable trouble and difficulty in caring for wine that has been left on the pomace, to prevent it from spoiling, coverings to exclude the air being necessary, and constant watchfulness. A similar result that is desired by those who treat wines in this way can be obtained by taking a portion of the pomace after the wine is expressed and covering it with spirits until such time as it is needed to be used, and in small quantities added to the wine at the time of racking during the winter or spring. It is not yet known accurately which varieties of grapes will produce the best tannic solutions of this kind, and for this reason the Commission is making comparative experiments so as to be able to demonstrate during the winter and spring the relative value of the pomace of different varieties, whether for white or red wine. It would be desirable in connection with these experiments that wine makers throughout the State should select portions of such pomace as they think best suited to this purpose and treat them with spirits, leaving them to soak, as it were, until the time of racking the wine in the spring. This can be easily accomplished by taking the head out of small casks, filling the casks with pomace, re-inserting the head and then filling through the bung hole with spirits, bunging the cask tight and leaving it in that condition until the solution is wanted. A very small portion of this solution will have the desired effect no doubt in many instances upon wines that are deficient in tannin, more especially if these are sweet wines which need fortification with spirits. This hint is made public especially for the advantage of those who are making port wine and who continually desire more tannin to effect prompt clarification and clearness of the wine in transportation. Where the Mission grape is made up into port wine it might be desirable to procure such tannic solutions from valleys where the dark tanniterous grapes such as the Grosser Blauer, Malbeck, Crabb's Black Burgundy and others of similar nature are produced, until such time as they can be cultivated at the spot where they are needed. After the alcoholic tincture of tannin so derived is drawn off and expressed, the remaining pomace can be washed with wine so as to save all the alcohol that has been absorbed, and this wine so treated may be of especial use in blending with others deficient in tannin. The wine dealers are especially aware of the importance of developing simple natural methods of extracting for use more of the true tannin contained in the grape, so as to avoid the necessity of resorting to the use of preparations of tannin otherwise procured. It is possible that the skins of some varieties of grapes may impart unpleasant flavors to such a solution and for this reason it is important to make a number of experiments to determine which are the most valuable. In France there is used a preparation called cenotannin which is claimed to be produced from grape skins, seeds and stems so that in addition to the wine nothing foreign to its natural composition may be introduced. A sample of this was procured for the Commission by Messrs. Charles Meinecke & Co., and is now being experimented with. It will be tested by the State Analyst to determine whether it is truly the product of the grape or some other substance. An effort will also be made to ascertain how cheaply such material in the

form of powder can be produced here from the pomace of grapes after they have been crushed and expressed. The chief value of tannin in wine is to prevent those alterations which are in the nature of diseased fermentations, by precipitating the albuminous material contained in the new wines. An excess of tannin is often added to a delicate wine for the purpose of assisting clarification with albumen, which unites with the tannin forming a film, and in settling clearing it from all impurities. Some of the comparative analyses of different wines made in this State that have been heretofore published are interesting, but at the same time more or less defective because the method of fermentation practiced by the wine maker is not clearly stated in all cases. Wines that have been drawn off before the fermentation has been finished or that have been fermented rapidly so that the juice has been in contact with the skins and seeds only a short time, may contain very little tannin, whereas by other methods of treatment they would contain more. It is also noticeable that much defective reasoning with regard to the tannin properties of different grapes has been published, growing out of the fact that wines from certain grapes that are not sufficiently ripened at the time of the wine making have been analyzed. It is apparent by examining the last bulletin issued by the Agricultural Department of the University and others of like nature heretofore, that to obtain the normal proportion of tannin, the grape has to attain a certain degree of maturity. The Zinfandels generally show little tannin when they are not fully ripe, so also more particularly the *Mutaro* which requires at least 24 per cent of sugar before it arrives at perfect maturity. Wines, therefore, made from the *Mutaro* which show only eight, nine or ten per cent of alcohol are indications that the grapes were not ripe when picked and this fact accounts for the low tannin which they sometimes show, whereas it is well known that this variety when thoroughly ripe is a large producer of tannin. This degree of perfect maturity as to the quantity of sugar that should be obtained varies with different varieties. Some of the wines of Santa Clara county recently analyzed and reported upon showing very little tannin were made after the ancient method of fermentation in France, the must before perfect fermentation being drawn off and thereby not having its full complement of tannin. Old wines cannot be fairly compared with young wines in this respect because with age wines lose their tannin by precipitation. Commercial wines for like reason cannot be compared because they have frequently been blended or treated so as to obtain additional tannin. Wines that have been clarified with the aid of albumen will of course lose portions of their tannin. The only fair test is to analyze new wines where the method of treatment has been similar in all cases and where each variety has obtained perfect maturity before being fermented. There is also some obscurity as to the quantity of tannin that should be contained in a wine in order to perfect it. There can be made no absolute rule to govern this question. If the new wines contain very little albuminous matter and have sufficient alcoholic strength they need much less tannin than those which have in solution large percentages relatively of fermentative matter and are light in alcohol. A certain degree of tannin is necessary to impart an effect to the palate which is appreciated by the wine drinkers, especially those who use water with their wine. It is also desirable that there should be sufficient tannin in the grapes during fermentation as experience shows that it exerts an influence on the fermentation favorably, especially with respect to color. In the south of France and Spain where the use of gypsum has been resorted to for generations as a means of insuring early clarification of wine and thereby preserving it from after-disease, many advanced wine makers are substituting the use of the natural tannin of the grape which accomplishes practically the same result so far as information on the subject is now obtained. It will not do, however, to rely generally upon the use of tannin derived from other substances than the grape itself because this principle in different plants is not exactly the same and may vary in effect upon the digestion of those who use the products.

THE CLAUS IMPROVED VINE TRELLIS.



THE CLAUS IMPROVED VINE TRELLIS.

In consideration that all forms and manners for supporting grape vines, as usually applied up to the present day, leave much to be desired, I have tried to meet these wants, and invented a structure of a trellis which will answer all demands in the best imaginable way.

The standards in this trellis are arranged as the rafters in a roof, being secured together at their upper ends, so that they are perfectly braced against transverse strain upon the trellis. The vines are supported upon horizontal wires connected; to the inclined standards, and thus the pairs of standards are connected the wires extend from pair to pair. Guy wires are fastened to the tops of each pair of standards along the whole row extending to posts at each end. A wire, bracing each end section besides, is recommendable.

The trellis is intended for two rows of grape vines. In constructing it, a row of posts are set in the ground in each line of grapes. They may be four inches square in section and three feet long and made of a durable kind of wood. They may be set with one foot projecting above the surface and their sides parallel to the rows. Their heads are chambered, so as to fit the notched lower ends of the standards.

Of the main regular form are two modifications; the one with adjustable rafters as to inclination and elevation, and the other wherever centre posts strong wires are stretched holding in ears the horizontal wires, no standards being needed. The device can be cheaply made in all parts of the country and is valuable to growers of every class.

All who have examined it, say it is the most noteworthy improvement in this line which has ever been produced.

Its application for vines requiring low pruning is obvious, and the low cost ought to render it popular in California vineyards.

Other preferences are: Its firmness, its protection against birds, its benefit in dry seasons, its suppression of weeds, ease of tying, pruning and harvesting, all done in shade, and last but not least, its production of the finest quality of grapes, because they are hanging free and isolated, and are at the same time protected against sun-burning and bad weather in a way which no other trellis ever will afford.

These trellises are blessings to the vintners and will produce a new era of welfare and riches.

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WINEMAKING.

Drawing-off, Racking and Bottling.

[From H. Bonnard's Official Report in the Sydney Mail.]

In most wine-producing countries the new wines are drawn off from the fermenting vats to be sent direct in very large casks called foudres, where they are left to wait further operations in due course by their experienced makers; these foudres are not quite filled up, so as to allow the new wines being submitted to a secondary slow and sleeping fermentation.

After 15 or 20 days, these wines are then drawn into large vats kept tightly closed and quite full, being visited and filled up once a week for the following five months; during that period, five rackings are considered as absolutely necessary, and are made during clear, bright and still weather.

These frequent rackings are intended to render the vines fit for immediate consumption, and to clarify them from the flying dregs which, at the following blooming season of the vine, are liable to start again a new fermentation.

The wines thus trained may, with a supplementary racking and sizing, when they are about six to seven months old, be kept safely for several years, provided, however, they are looked at from time to time, if it was only to fill up the casks. From their second year, these wines are considered as not requiring more than very ordinary care and have to be kept in a cellar having a constant and uniform temperature of about 60 degrees or 65 degrees Fahrenheit.

In the districts of Bordeaux, Médoc and St. Emilion, the only vineyards which colonial wine growers should take for models, the universal and always successful practice has and will always be to lodge the new wines at once in as many new casks of a regular size and type as may be necessary; 50-gallon oak casks appear to be those most favorable to the subsequent self-improvement of the wine they contain.

A few days before the drawing off from the vat takes place, each cask is washed with tepid pure water, and freed of any taste likely to remain in the wood, or affect the wine; the tepid water is not left in the cask longer than about half-an-hour, and it is then replaced by cool fresh water. The day before using them, these casks are again thoroughly well cleansed and dried, and upon many of the leading vineyards they are wetted with a tumbler of good eau-de-vie before they are taken to their resting place, on some wooden or stone stands slightly elevated from the ground, in order that the wood be not affected by the dampness of the cellar's floor.

Whilst a fermenting vat is being emptied of its new wine, after fermentation, care should be taken that the seeds do not pass with the liquid, and the tap should be closed the very moment the wine does not run perfectly clear.

Whatever may remain of thick must should on no account be mixed with the first or top wine, but reserved for special subsequent treatment. As to the grapes which have fermented in the vats, they are taken out, and brought under a wine pressing machine, to obtain a wine of second-class or inferior quality, generally used by the workmen of the vineyard, or when not too inferior utilized for filling up the casks during the several months immediately following the drawing off.

To obtain a perfectly uniform type of wines, the Bordeaux growers have their fermenting vats connected by pipes, with a central and smaller one, in which the wines are emptied all at the same time, thus thoroughly mixing and blending with each other, and from that last vat they are immediately conducted through other pipes, in the casks prepared for them, without having been exposed to the air. As soon as these casks are filled up, they should be lightly shut or closed with wooden or cork bungs, or, what is better again, with glass bungs.

During the first month the casks should be filled up twice a week—from the second month once a week would be enough, if in cellars properly constructed; at the same date the bungs may then be pushed in more tightly.

Three months after the vintage (say in July, or at all events in August) a first racking should take place for the purpose of separating the dregs or lees from the wine; these lees generally remain at the bottom of the casks, but they are liable, through changes of temperature or any accident, to rise again, mix with the liquid, and cause a new fermentation likely to spoil the wine.

Before racking, the casks intended to receive the wine should be thoroughly well cleansed, washed and dried; further, a very small sulphured wick must be burned inside, without the burned wick remaining in it afterwards; the rackings should be managed by calm and dry weather, from time to time, as said hereafter, and, according to some practical men, in preference during the last quarter of each moon; special pumps are made for the purpose, but their use cannot be recommended for wines not already fined and cleared of previous dregs, unless very great care and constant attention are paid to the wine in course of transvasement, to avoid any dregs passing when the cask is getting nearly empty.

In September, just before the blooming season of the new vines, a second racking must be made; and another, third one, again in December, and a fourth, or last one, in March. Until this last racking the new wines are left in casks with the bungs upwards, and they must be filled up not less than once a week; but after the fourth racking these casks may be placed on their sides, with the bungholes partly downwards, and there is no necessity to fill them up any longer, provided always they are kept in well-closed cellars, free from changes of temperature.

During their second year the new wines must be racked three times, viz: in September, December and March, and for the following years two rackings, one in September, the second in March, will prove sufficient.

The wines intended for bottling must be carefully sized or clarified at the beginning of their third year; many compositions are in use for this clarifying of wines; but the one acknowledged as the best of all is pure albumen, or white of eggs, for the red wines. From six to ten eggs are required for a cask of 50 gallons, according to the age and strength of the wine to be sized or fined. Two or three gallons being drawn off from the cask, the eggs are well beaten together and then thrown in the cask, where they are mixed in the wine with a very simple apparatus, kept agitated for about 10 minutes. As a rule, a rest of 15 or 20 days should be enough to recure a good limpidness of the wine and to clear it

from all strange matters; after that period a new racking of the wine must take place, with more precautions than on any other previous occasions.

No wine should be bottled until it is fully three years old; strong and full-bodied wines, as the Australian wine, require even four years, and in some cases five years, of training in casks before they have attained that degree of limpidness, brightness and softness expected in a good wine. During the period these wines are kept in casks they should not be fined more than twice; once ought to be enough, as the more finings they are submitted to the more they are liable to lose their soft and fruity taste, and so become dry and burning.

When about to be bottled every care must be taken to preserve them from being mixed again with any lees, and from being left exposed to the air any more than can be avoided. The bottles should be well cleaned and be so filled as to be in contact with the corks; these last should be well chosen, as free of spots as could be practicable, rather long, and soaked for a short time in good brandy. The corks employed for the bottling of the good ordinary Bordeaux and Burgundy wines cost generally from 30 shillings to 40 shillings, and even 50 shillings per thousand.

Bottling and corking machines of various patents are now used everywhere for bottling wines and fixing the corks; also for the tinfoil capsules now in use for the covering of the corks, in preference to wax, to protect them against the dampness of cellars

Mr. T. R. Minturn, of the Sierra Vista Vineyard, called at our office last week and discussed many matters viticultural.

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All applying to me will receive my HONEST OPINION of their complaints—no experimenting. I will guarantee a POSITIVE CURE in every case I undertake, or forfeit \$1,000. Consultation in my office or by letter FREE and strictly private. Charges moderate. Thorough examination, including chemical and microscopical analysis of urine and advice, \$5. Office hours, 9 to 3 daily, 6 to 8 evenings; Sunday, 9 to 12 only. Call or address DR. ALLEN,

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Every merchant, householder and farmer should protect themselves against the ravages of fire. It is granted San Francisco has one of the finest fire departments in the world, yet our city within the past year has witnessed many serious and destructive fires—the last conflagration which consumed half a block on Fourth street might have been prevented had the remedy been on hand. Would the people but recognize this fact millions would be saved annually even in our business centers. And if city men see the necessity of having Hand Grenades within easy reach, it becomes an absolute necessity for every farmer and country resident, who have no well-appointed fire brigade to fall back on, to be well provided with what are indeed a God send. Most of us have something to lose, that, if lost, no money could replace no matter how big the insurance, (letting alone the risk to human life) and every thinking man if he has not done so, will avail himself of the opportunity to get a dozen or two of the Harden "Star" Hand Grenades, which still hold their own against all competitors as the subjoined letter will prove. The so-called "Improved" Grenades are made in sections which apparently adds to the difficulty of distributing the contents, as the weakest section will break and the others remain intact. The Harden "Star" Grenade is five times more powerful than any other; 57 actual fires were extinguished with them in California alone the first six months. The only Grenade that never goes back on the buyer. Orders can be sent to the SAN FRANCISCO MERCHANT. Price—pints, \$15 per dozen; half pints, \$10 per dozen.

THE LETTER.

Mr. John Whelan, Ukiah, Cal.—DEAR SIR:—As it was through your persuasion that I bought a supply of the Harden "Star" Hand Grenades, the following statement may be of interest to you: On last Saturday week I was absent from home all day. The weather was warm and a strong north wind blowing. About 2 o'clock P. M. a dense smoke was discovered issuing from the furnace and press room of my old hop kiln on the north of my other buildings, and in a direct line with them. One of my boys, a lad 14 years of age, made the discovery, and was the first to arrive at the kiln. I had previously placed a number of the grenades where ready access could be had to them. The fire was communicated to a barrel of sulphur in which there was only about one-half of a bucket full. The barrel and some boxes were together and standing against the wall of the building, and directly under the cooling room, in which at the time there were not less than 8,000 pounds of dried hops. The barrel and boxes were burned completely to a coal, not a stave of the barrel being left. Baling rope and cloth near by were burned, and the walls of the building, joists and flooring above were deeply charred. The flames had just communicated with the hops in the cooling room above. The lad above referred to seized a grenade and threw it against the wall; it broke and partially deadened the flame; a second, third and fourth were broken and the fire completely extinguished. It is undoubtedly a fact that the grenades saved me from a serious loss.

Yours truly,

L. F. LONO.

HOPLAND, Sept. 29, 1885.

IMPOVERISHMENT OF THE SOIL AND RESISTANT VINES.

A long communication from Monsieur Rivand of Mulhausen, Alsace, has been received by the Commission, containing the views of the writer who has published several papers in Europe for distribution, concerning the nature of the phylloxera pest. He belongs to a party which still has some representatives in Europe who believe that the phylloxera is an effect and not the cause of disease. During the first few years of the phylloxera invasion in Europe the notion prevailed that perhaps the vines were becoming weakened by the system of continuous culture and propagation by means of cuttings and that they might be renewed in strength by propagation from the seed. This theory gained many supporters, as it appeared on the face of it plausible, but it has been since demonstrated both in France and in California that the seedlings even of the wild European and Asiatic vines are not more resistant than vines propagated the usual way from cuttings. Since then this party who believe that the phylloxera is an effect and not a cause has been attempting to demonstrate that the source of the disease is in the impoverishment of the soil and they have been recently misled in some places in Europe by reports of the effects of the phylloxera on the vines of California, because they have assumed erroneously that in California we are cultivating generally the American vines which are claimed to be resistant. They are therefore citing the instance of the phylloxera in California as proof that the American vines will not resist the phylloxera. Experience in this State however has practically set at rest the doctrine of this party because we have found not only that the seedlings of the wild vine of Asia die rapidly under the influence of phylloxera but also that the disease spreads as rapidly in our richest soils as well as in our poorest, with this exception, that the poorer the soil is the quicker the vine succumbs by a known rule that the resistance of the vine to the attack of the disease is proportioned to the vigor of the plant. The resistance of the wild American vines has also been tested here under the most trying circumstances, young tender seedlings being planted in soil that of itself scarcely supports a good vine, immediately over the diseased roots of dying vines. Under such circumstances, even without disease, it is very difficult to make a vine grow, but the experiments of the Commission prove that several of the species of the wild vines of America will continue to live under these most unfavorable circumstances and make growth, resisting the disease while the vines around them are dying out. In some cases in this State the phylloxera is attacking vines that have been planted on virgin soil before they are even two years old. In other cases they have been found upon vines yielding from thirty to forty pounds of grapes, in soil that continues to be very rich. It is not contended that these resistant vines are in all cases absolutely proof against the phylloxera, but they are called resistant because the wounds made upon the roots by the insect heal over and if the soil is favorable to the growth of the plant they continue to live and produce crops notwithstanding the presence of the disease.

The problem in this State at the present time is to ascertain which of the known resistant species are best for different localities, and which of them are the best stocks to graft the European varieties upon, as

some are more difficult in taking the graft than others. As this question is of great importance at the present time, and many are proposing to rely upon resistant vines as a precaution against the invasion of the disease in this State, reference is made to certain parties in different sections of the State who have tried these resistant vines, some of whom have already grafted and received fruit. None of these resistant roots, are, however, of any great age, the work of propagation having been carried on during the last few years. Those interested can visit the vineyards where they are growing or have been grafted, before the foliage drops from them this season, in order to judge for themselves as to their relative vigor and the success of grafts. Reference is made therefore to the following parties: J. E. Packard, Pomona, Los Angeles county, eighty thousand Seedling Californicas planted in 1884, grafted in 1885; R. T. Pierce, Santa Clara, Seedling Californicas, grafted in 1883; C. H. Wakelee, Mountain View, table and shipping varieties, grafted on Riparias this year, Riparias planted in 1883; J. L. Beard, Centerville, Alameda county, Seedling Californicas planted in 1881; Professor E. W. Hilgard, Mission San Jose, Seedling Californicas and Riparias, planted in 1884; at Livermore considerable tracts of land more or less grafted can be seen at the vineyards of Hon. J. F. Black, Hon. G. H. Perry, F. L. Fowler, J. H. Wheeler, Clarence J. Wetmore and Charles A. Wetmore. Sample grafts, one, two and three years old can be seen in the latter vicinity. E. W. Maslin, Clerk of the State Board of Equalization, office Sacramento, vineyard in Placer county, Seedling Californicas planted in 1882, grafted in 1884, bearing fruit this year. Natoma Water & Mining Company, Folsom, three-year-old Seedling Californicas grafted in 1883 with Black Ferrara; Arpad Haraszthy & Co., Orleans Hills vineyard near Madison, Yolo county, Seedling Riparias, Californicas and Arzonicas planted in 1883 and 1884; A. L. Tubbs, Calistoga, Napa county, grafts this year on Arzonicas and Riparia Seedlings; George Shoenwald of the Hotel Del Monte, vineyard at St. Helena, fruiting grafts upon Riparias principally, also upon Californicas and Arzonicas; Charles Krug, St. Helena, Lenoir resistant stocks, grafted upon diseased roots, in fruiting condition; Gustave Niebaum, Rutherford, Napa county, Riparias rooted from cuttings of different ages, some grafted in 1884 and bearing in 1885; H. W. Crabb, Oakville, Napa county, numerous varieties of resistant vines both for grafting stocks and for the production of fruit; Leonard Coates, Napa, numerous varieties in nursery; Hon. M. M. Estee, Lenoir grafted on European roots for the sake of their fruit and Riparias planted for grafting stocks; Hon. John F. Miller, resistant stocks grafted this year; Hon. John M. Stanley, vineyard near Suseol Ferry, Napa county, Riparias and Taylors grafted in 1884, bearing fruit sufficient for wine making this year; Adolphe Flamant, between Napa and Sonoma, several species of grafting stocks grafted in 1884 and 1885; Estate of J. W. Simonton, Talcoa Vineyard, on the road from Napa to Sonoma, different varieties of resistant stocks some grafted in 1884 and others in 1885; Julius Dresel, Sonoma various varieties of different ages grafted during the last three or four years, bearing fruit, also several parties in his neighborhood; also the following who have resistant vines planted during recent years, more or less grafted: Eli T. Shephard, Hon. Wm. McPherson Hill, Mrs. Kate F. Warfield, J. H.

Drummond, Attila Haraszthy, in the region between Sonoma and Glen Ellen; State University, Berkeley, different species of resistant stocks grafted for experimentation under charge of W. D. Klee.

Besides those to whom reference is made, there are a great many others experimenting more or less with these varieties, whose names can be learned from the vine growers in the districts where people are making investigations. Some of the earlier stocks from Missouri that were introduced, while they are more or less resistant, such as the Taylor, Clinton and even the Catawba and Isabella, are proving quite resistant in this State when planted in suitable soils, but are not now in common use for grafting stocks. The species best adapted to work in California at the present time according to experience now obtained are the wild Riparia, Californica and Arzonica, and for the sake of fruit, and not to be used as a grafting stock, the Lenoir and Herbemont. Some of these species are known to succeed better in one place than another, therefore it is important for vine growers to try a few specimens of each in their vineyards where they are not yet pressed to select some one of the different kinds known, in order to be able to determine, when necessary, which are best adapted to their localities.

The following communications, addressed to the Commission, give the experience and opinions of gentlemen in different parts of the State:

JUDGE STANLEY'S OPINION.

Chas. A. Weemore, Esq.: DEAR SIR—In the spring of 1881, I imported from Missouri 20,000 wild Riparia cuttings, and 5,000 each of Taylors and Clintons.

These cuttings were planted in vineyard the same spring. Result: the living and growing of about 30 per cent. In the spring of 1882, the vacant spaces were filled by cuttings taken from those of the Riparias which grew in 1881. The places of those which failed to grow in 1882, were supplied with Riparia cuttings in 1883.

In 1884, (April) all which had been planted in 1881 and 1882, were grafted with Zinfandels, Carignans, Mataros, Malbecs and Lenoirs, with the result of about 85 per cent of living and growing grafts. No difference could be perceived in the taking of the different kinds of grafts. In 1884, the first year of grafting, each kind produced a few grapes. This year each kind has fruited. My experience is too limited to enable me to judge whether the amount of the crop borne this season is a fair one or not, but judging from examinations which I have made of other Zinfandel vineyards in my neighborhood, which were planted upon its own cuttings, in 1880 and 1881, I think my grafted Zinfandels this year have produced fully as well as they have. I have had no opportunity of making any comparisons as to the production of the other varieties, there being no young vines of those kinds in my vicinity, upon their own roots, that I know of. The quality of the grapes produced by my grafted vines this year seems to be of the same character as is produced by the same varieties grown upon their own roots, but here again my experience is too limited to justify me in speaking positively. I only know that to the eye and the taste, in color, both of fruit and expressed juice, they appear to be identical. I have sent you samples of my Zinfandels and Mataros, and a bottle of the fermented juice of my Malbecs, in order that upon this question, you can form a better judgment than I am capable of forming.

The union which has been made by the scion with the roots, in my vineyard, seems to be perfect. In the case of the Carignans, particularly, this union has been most severely tested the present summer. This variety is the most vigorous grown and makes a much larger and heavier top growth than the other kinds which I have tried. I think the body of the scion will average twice, at least, the diameter of the root which sustains it. The average height of the growth is about five feet, and is very heavy. This heavy growth has been tied to 5-foot square stakes. The location has exposed these Carignans to the exceptionally strong trade winds which have prevailed this summer, and the result has been that the sharp corners of the stakes have cut the ties, and at least three-fourths of them have been broken loose from the stakes and laid flat on the ground, four or five times during the season. If this repeated and violent disturbance of the scion has parted the union of the graft with the root, in a single instance, I have not seen it. A few days since, I tried with the strength of a strong laboring man to pull a scion from its root and failed, and it looked as if the whole root could be pulled up as readily as the separation could be made.

Of course I can say nothing of my own experience, as to the actual resistant power of the Riparia, or any other stock. I have accepted the fact of their resistance to the attack of the phylloxera, upon the faith of the experience and observation of others.

This brief account of the experience which I have had would be imperfect, if I failed to state what I conceive to have been errors and mistakes which, through inexperience, I think I have committed. These mistakes are several in number, but I think the most important are the following three, viz:

First—I erred in planting cuttings in vineyard; they should have been rooted in nursery, and from thence transplanted in vineyard. This error has added \$20 per acre (in round numbers) to the cost of my vineyard.

Second—I erred, in replanting my vineyard in the spring of 1882, with cuttings taken from cuttings planted in the spring of 1881. These cuttings were too small to make a timely and vigorous root development, for an early subsequent grafting.

Third—I made a mistake in planting new and additional vineyards with cuttings and with roots made from small cuttings. These errors were the result of ignorance, undue haste and a false economy. The wood of the Riparia was scarce and expensive. My experience with the imported cuttings had been disastrous, and I was thus led to save and use all the brush of home-made growth, which could be made to grow.

Finally—My advice, to any one, intending to plant Riparias, as a stock for grafting, would be:

(a)—Procure California grown cuttings of large size; the first and second cuts from each vine.

(b)—Plant these cuttings in nursery, and allow a growth from but one eye, and after this growth has well started, summer prune it as short as possible, so as to force the development and enlargement of the body of the cutting.

(c)—At one year old, transfer the root to the vineyard, and allow but one shoot to grow, and keep that summer pruned, for the purpose of forcing the enlargement and development of the root and body of the vine.

I think if this course is pursued, that at one year from the time the root is planted in vineyard, the body will be twice the size which they would otherwise attain and sufficiently large for grafting.

The Riparia root is very vigorous, and it seems almost impossible for a Vinifera

scion of the same size to appropriate all the strength and sap supplied by the root, and this extra supply of strength and sap in the root takes the form of suckers after the root has been grafted, and unless care is taken to remove these suckers, they will appropriate the sap of the root to the detriment or death of the scion. It will not do to await the appearance of the suckers above ground, before commencing the process of removing them. In many instances I have removed an ordinary hatfull of these suckers from a single vine when there was no appearance of their existence above ground. If I had known this tendency of Riparias to suckers, the first year I grafted, I think I would have had 95 per cent of the grafts to have taken, instead of about 85 per cent. Hereafter, I shall commence suckering, as soon as the grafting is finished, and go over the vines at least once in ten days, until I find that the suckers cease to grow. Would it not be advisable in taking off these suckers, to cover the body of the root from which they are taken with a ball of plastic clay to prevent the starting out of a fresh and new growth? The second and other growth of suckers seems to start from the same place from which the first growth is removed.

Very respectfully yours,
JNO. A. STANLY.
San Francisco, Sept. 28, 1885.

MR. E. W. MASLIN'S OPINION.

Chas. A. Wetmore, Esq.—I do not know the meaning of the term "condition" of grafts, so I relate as briefly as I can the facts concerning my grafting. The vines, *Vitis Californica*, were set out by April 1st, 1882; by the spring of 1884 the stocks had grown to from 1/2 to 1 1/2 inches in diameter. In May, 1884, I grafted them with Zinfandel, using the simple cleft. They were grafted on the soft root just above where the root system began, or from having been planted too shallow, I had to cut the stock away so as to get down deep enough. I estimated that I lost about 20 per cent., as the knowledge I possessed of grafting was that gathered from reading your instructions, never having seen a vine grafted I prided myself upon the result. I think now I can grow at least 90 per cent.

I tried to graft the stock that did not take, this year, but all failed, the stock being too dry. There were some blossoms last year, but I cut them off preferring that the forces should go to growing wood. This year I had promise of a good crop, but the frost injured the lower part of the vineyard and the locusts the upper part. However, I was pleased with the yield, the branches were solidly filled, not a grape missing, and the bunches weighed from 8 to 16 ounces. Although I pruned, as you suggested, 10 inches from the ground, and the grapes hung clear of the ground, exposed to the sun, none were sun-burned. Whether from the influence of the stock or from the soil and climate I do not know, but my Zinfandels are good keeping grapes. We plucked them on Friday, September 4th, and dumped them under a tree preparatory to crushing for wine making, there they remained until Sunday, on that day as we sat crushing by hand, I threw some bunches into a basket, and took them to Sacramento city to eat, but on reflection exhibited them at the State Fair. Of course the bloom was off, but I am eating those grapes to-day!

In answer to a crazy loon who has been writing to the San Francisco Report, I wish to say that the union between the *Vitis Californica* and Zinfandel is perfect. You can with difficulty tell where the graft was made. In 1883 I did not plant any. In 1884 I put out a block of four acres of Zinfandel on their own roots, next to and on identically the same soil containing the *Vitis Californica*, but they have not made much growth, in fact, I call them a failure. This year I set out Riparia and *Vitis Californica*, and therefore have not grafted any, and shall not, until the spring of 1887. Riparia excels this year *Vitis Californica* in branch growth.

I have no first growth Zinfandels. There are some second growth Zinfandels. I will send you some on Sunday, per express.

Yours truly,
E. W. MASLIN,
Sacramento, Sept. 25, 1885.

Mr. Adolphe Flamant of Napa writes: "I send you a box containing some bunches of Zinfandel on California grafted during April 1884, and three bunches of the same variety grafted in February and March 1885. They all belong to the second crop of Zinfandels since I gathered my grapes this year during September. All the

grafts of Zinfandels on Californicas. I made in April 1884 had many grapes this year, I should say from ten to twenty bunches each is a fair average. This year's grafts vary from one to six bunches. The Californicas on which Zinfandels were grafted were planted during the season 1881-82.

The following table shows the foreign varieties of grapes, grown from grafts on resistant stocks, that have been on exhibition at the offices of the Commission, with the localities where they were grown:

Variety.	Grafted on.	Year.	From.	Locality.
Zinfandel	Seedling California	1884	E. W. Maslin	Placer Co., (hill land)
Petit Bouschet	Taylor	1883	Hon. O. H. Perry	Livermore
Marsanne	Riparia	1884	{ Talcoo Vineyard } { Geo. Husmann }	Napa Livermore
Gros Bouschet	Taylor	1883	Hon. G. H. Perry	"
Semillon	California	1881	C. J. Wetmore	"
Alicante Bouschet	Taylor	1883	Hon. G. H. Perry	"
Sauvignon Blanc	California	1884	C. J. Wetmore	"
Cinsaut	Taylor	1883	C. A. Wetmore	"
Muscadelle de Bordeaux	California	1885	C. J. Wetmore	"
Cabernet Franc	"	1883	"	"
Aramon	Taylor	1882	C. A. Wetmore	"
Cabernet Sauvignon	California	1885	C. J. Wetmore	"
Petite Syrah	Taylor	1885	C. A. Wetmore	"
Mataro	California	1881	"	"
Mondeuse	"	1885	C. J. Wetmore	"
Orleans Riesling	"	1881	C. A. Wetmore	"
Mataro (second crop)	Riparia	1884	Geo. Schoenwald	St. Helena
Mataro	"	1884	Judge Stanly	Napa
Cabernet Franc	"	1885	Geo. Schoenwald	St. Helena
Zinfandel	"	1884	Judge Stanly	Napa
Clarette Blanche	Taylor	1883	Hon. G. H. Perry	Livermore
Alicante Bouschet	California	1885	"	"
Folle Jaune	"	1884	"	"
Zinfandel	"	1884	Adolphe Flamant	Napa
Zinfandel	"	1885	"	"

*In nursery; transplanted in 1882.

†In nursery; transplanted in 1882.

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FRIDAY.....OCTOBER 9, 1885

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THE AUSTRALIAN MAIL SERVICE.

The mail service between San Francisco and the Colonies is to be jointly performed by the Union Steamship Company of New Zealand and the Oceanic Steamship Company of San Francisco, the latter performing the service as far as Honolulu. Failing the whole contract being undertaken by American vessels, this is the best possible arrangement for San Francisco. The details of the contract made are not yet to hand. It is safe to assume, however, that, with the fast and excellently fitted steamers of both companies, the service will be superior to any that there has been with the Colonies. The San Francisco and Honolulu agency and management will, of course, be in the hands of John D. Spreckels & Bros., from whom the public can always rely upon receiving prompt and courteous treatment. In this respect there will be no loss. As regards the Honolulu traffic, the only alteration will be necessarily in the dates of the departure of the steamers, but the semi-monthly service with the Islands will be continued. There will be the advantage, however, of a possible increased tourist traffic through America, owing to the "lay over" facilities that can now be offered to passengers desirous of remaining in Honolulu, and which could not be effected under the Pacific Mail Company's regime. The Messrs. Spreckels deserve their success for their continued energy and perseverance in all their undertakings. Their honorable and gentlemanly dealings in all business matters have made them universally respected, and have contributed largely to their present high commercial standing.

THAT NEW SUGAR DEAL.

From private advices from the Hawaiian Islands we learn that all the planters, whose sugar has been contracted for by the American Sugar Refinery, are not quite satisfied with the new deal. Seven thousand tons has, this week, been offered by individuals to the California Refinery who declined to purchase, and a further lot of 3,000 tons was offered by planters with the further inducement of a change of agency to John D. Spreckels & Bros. This has also been refused. We have personally been asked to place a lot of 2,000 tons of the coming crop.

THE NEW ORLEANS EXPOSITION.

Our fruit growers and viticulturists should begin to bestir themselves for representation at the New Orleans Fair which will open next month. The advantages derivable from a thorough and complete exhibit of all the varied products of California are incalculable. It is only by continued and persistent exhibits of such a character that the present developments and future possibilities of the State can be made clearly apparent. There are thousands of people who daily learn and see what we can do, through such a medium, and the opportunities afforded by these Expositions should not be disregarded. Even if an individual be not directly benefited by his single efforts he will receive indirect advantage through increased demand for our products, through a material gain of population and through extended trade connections.

The unfortunate delay that occurred in forwarding a few of our viticultural exhibits to Louisville, will not occur in the case of New Orleans, where the whole rail connection is in the hands of the Southern Pacific Company. In shipping to Louisville the California Company were indebted to and dependent upon other lines for partial courtesies, and the Eastern roads would not carry packages by baggage train which weighed more than 250 pounds. In the case of New Orleans there will be no opportunity or possibility of any such delay. We learn that Mr. C. B. Turrill has just been to New Orleans and completed arrangements whereby individuals, whose exhibits are in the Southern Pacific Company's charge, can compete for prizes on payment of a fee of ten dollars. The space secured for California is two-thirds the size of the whole of the Mechanics' Fair building in San Francisco. We should be glad to see the viticulturists of California endeavor to arrange for their special representation at New Orleans by continuing to engage the services of Mr. Pohndorff. An interesting letter from Mr. Turrill on this subject has just been received as we go to press.

GRAPES FROM COLFAX.

Mr. J. B. Whitcomb of Colfax, Placer county, made a fine display of grapes at the Mechanics' Fair in San Francisco. His ranch is located half a mile from Colfax and comprises fifty acres, twenty-three of which are planted in vines and twelve acres are in full bearing. The varieties grown are mainly for shipping purposes, though the owner has made some wine. The yield varies from three to four tons to the acre and realizes 3@3½ cents per pound for shipping grapes, though some choice varieties bring as much as five cents a pound. The net receipts this year, from the twelve acres, were \$2,200. The varieties exhibited at the Fair, filling seventy plates, were: Purple Damascus, Muscat, Catawba, Rose Chasselas, Flame Tokay, Golden Chasselas, Petit Pinot, Fontainebleau, Franken Riesling, Grey Riesling, Malvoisie, Black Hamburg, Grenache, Isabella, Zinfandel, Ross of Peru, Mission and Black Morocco.

THE VINTAGE.

As wine making progresses in the State we are inclined to believe that the vintage of 1885 will not exceed 8,000,000 gallons. With the superior quality of this year's wines, increased consumption and reduction of stocks in the city, wine makers should look for a material advance in prices.

FERMENTATION.

The excessive heat recently has caused considerable trouble in the fermentation of dry wines during the present vintage. Under the influence of the high temperature, the sugar in the musts decomposed by the action of the ferment into carbonic acid gas and alcohol so rapidly that the fermentation was arrested before being complete in many instances, making it difficult to complete the entire conversion of the sugar into alcohol. How to explain this peculiar phenomenon, which is familiar to wine makers in this State, is a little difficult. It has ordinarily been assumed that the excess of heat kills or destroys the ferment germs and thereby causes the cessation of the operation. There are many reasons to cause the belief that this explanation is not critically correct, and investigations have been carefully made, to ascertain, if possible, what is the true nature of the phenomenon, so that proper remedies may be applied intelligently. Excess of heat, up to a certain degree, will of course kill and destroy the ferment, but in the cases cited, proof that the ferment germs have not been killed is shown by the fact that by introducing fresh must, or even water, the fermentation may be excited over again. At the office of the State Commission and in the country, under the observation of those who have undertaken to work with the Commission, careful researches have been made with a view to solving this question so as to ascertain whether it is absolutely essential in all cases to secure a lower temperature of the atmosphere surrounding the fermenting mass, or whether by any care in the development of the germs of ferment, the trouble may be avoided, notwithstanding these sudden elevations of temperature.

Those who have begun this year to make wine were puzzled when fermenting during very hot weather to find that they got a very rapid fermentation at the start and a very slow one at the close, leaving the wine with a few degrees of sugar unfermented, and themselves in doubt as to what to do to correct the trouble. The old wine makers of the State, however, have found out by experience that by adding liberal quantities of fresh must, especially varieties which contain more or less acid, the fermentation may be provoked again and carried through. Some practice this remedy by crushing fresh must into empty tanks and drawing the wine that has resisted perfect fermentation upon these partially filled tanks. Those who practice this remedy have very little difficulty in securing the desired results. It is not, however, always practicable, because in some cases the wine maker has no fresh must to use. In such cases where the must of the grapes before they were crushed contains over 24 per cent of sugar, it is practicable to add water heated to blood heat so as to reduce the wine that will be made, sensibly but not too much. This can be easily calculated by determining first how much wine a ton of grapes usually produces and, knowing the number of tons that are in the vat, the percentage of water required to reduce the must without danger can be easily arrived at.

The Commission, through its several agencies in the country, has been testing other methods so as to be able to report positively hereafter, such as those which relate to the addition of fermentative matter together with more or less water or fresh must, based on the theory that in

some cases the arrest of the fermentation is due not only to the causes referred to heretofore, but also to the want of sufficient fermentative principles in the must. This theory is arrived at by the corroborative fact that these troubles with fermentation occur generally in districts where there is little rain and little nitrogen in the soil, and small development of fermentative principles in the grapes, and is prevalent in a season like this when there has been little rain during the Spring. The absence of certain mineral salts in the must of the wine which are known to be essential to the development of the ferment germs may also cause some of the trouble in a more or less degree. Some of the experiments this year were made with a view to determining to what extent the aiding of fermentation by means of the salts naturally contained in must may be accomplished. At the office of the Commission it has been shown by repeated experimentation that at a temperature not exceeding 64 degrees a complete fermentation can be obtained generally without difficulty, and even must containing 24 per cent of sugar has been fermented out this year on several occasions in three days, the temperature of the must under the influence of fermentation not exceeding 77 degrees. The troubles that have been recorded generally are connected with high temperature of the atmosphere which stimulated too rapid decomposition of the sugar.

IRRIGATION OF WINE GRAPES.

Since the vines which have been treated in France, by submersion, as a remedy against phylloxera, have been bearing fruit considerable discussion has been provoked in the journals devoted to viticultural interests throughout that country, relating to the effect of this practice upon the quality of the wines produced from the grapes. Many have contended that the wines so produced were inferior, but recently Monsieur Fancon, who has the honor of having originated this remedy in the valley of the Rhone, has made public a statement in which he contradicts the theory that submersion of the vines in the winter time will injure the quality of the wines. His conclusions are that in a soil where there is free and easy drainage the application of water during the winter does not leave any marked effect in summer so as to cause any injury to the fruit, but he adds that this irrigation ought not to be practiced in summer. He claims that the causes, where the quality of the wine has been injured, are traceable to the practice of summer irrigation, whereas submersion as a remedy against the phylloxera is only properly applied in winter. His point, that the soil should permit free drainage so that the roots of the vine may not remain wet during the summer, is forcibly taken. This discussion in France is of special interest to this Coast, and the result of it as reported upon by M. Fancon, who is the leader in the submersion practice, fully sustains the recommendations that have been made by members of the Viticultural Commission in this State, cautioning the vine growers against summer irrigation wherever it is unnecessary for the vigor of the vines, and advising extreme caution in such places where it may be absolutely necessary; advocating the use of water in the winter time where there is an insufficient supply of rainfall and the promotion of complete drainage of the subsoil in which roots are imbedded.

Mr. A. T. Marvin of 516 California street, has forwarded samples of olives and olive oils from the Quito Olive Farm at Guberville, Santa Clara county, similar to those which secured the medal and diploma at the Mechanics' Fair.

This week there have been forwarded to Louisville 23 boxes of raisins by various producers, six cases of wines and brandies from Geo. West of Stockton and four boxes of grapes from Dr. Strentzel of Martinez.

A Good Profit on Raisins.

In our last issue we published and referred to the enormous yield obtained by Mr. Geo. A. Cowles of El Cajon, San Diego county, from his Moscatel vines. Taking his figures at 16 1/4 tons of grapes to the acre this is equivalent to 32,500 pounds of fruit, which at three cents a pound represents \$975 to the acre for the grapes alone. But this is a comparatively small return when compared with the profits from the raisins. Taking 80 boxes of raisins to the ton this gives a total of 1300 boxes. All the fruit being of an unusually fine quality the raisins will probably realize \$2.50 per box or \$3,250 per acre. Allowing half of this amount, \$1.25 per box, for expenses, we thus find a nice little net profit for Mr. Cowles of \$1,625 per acre for his raisin crop of 1885.

Those Moscatels.

EDITOR MERCHANT—Dear Sir:—I read in your last issue of the remarkable yield of Moscatels grown by George A. Cowles and which he attributes to his system of pruning, etc. What is his system? Could you not give it to us in your valued paper, also a succinct and easy method of wine making for the novice? Yours respectfully,

W. G. HUBLEY.

Colfax, Oct. 2, 1885.

Mr. Cowles will doubtless favor us with the information required as to his pruning. The best published instructions for wine making are to be found in Rixford's Wine Press and Cellar.—[ED. MERCHANT.]

Uniformity of Packing Raisins.

[Fresno Republican.]

The raisin men of central and southern California are this season making strenuous and it seems effective effort to get unity in packing their raisins. The idea is not new, but the carrying it into effect is. Messrs. Wm. T. Coleman & Co., San Francisco, are the chief movers in the enterprise, and a very commendable one it is. This firm has now procured the agency for this season for nearly all the principal producers and packers in the middle and southern part of the state, and established a uniformity of box, label, packing, etc., by which California raisins can be told at a glance. The boxes are all of one size, containing 20 pounds when whole. The fancy paper margin inside is a very faithful representation of maiden-hair fern with pink blossoms, a fine contrast. This is the same in every box for every vineyard. Inside these paper margins comes a large label, covering the whole of the upper layer. Every packer has two kinds of label, one each for London layers and for loose Muscatelles. The distinguishing characteristic of each label is a color bar running diagonally across. This bar has a distinct color for each variety, as well as for each packer, which is the case with the bottom color of the label. Most of these combinations of colors are exceedingly tasty and harmonious. The box itself is also painted with a similarly colored bar, upon which is the word "trade mark." No raisins under grade will be tolerated under these "flying colors," and every packer is expected to stand by them as his standard. Thus all superior California raisins will at a glance be seen to present a uniform appearance, while the individual vineyard will be distinguished by certain colors, besides their names. The object is to establish a universal California brand for first-class raisins.

SULTANA RAISINS.

The Object and Method of Using Lye.

The following letter, addressed to Messrs. Wm. T. Coleman & Co., has been handed to us for publication:

W. T. Coleman & Co.—DEAR SIR:—Yours requesting information about curing the Sultana raisins by use of alkali is at hand.

The information I have not received from the producers of these raisins but from letters written by the American Consul at Smyrna, he simply said they were cured by dipping in lye, and drying in the shade. Now the object of dipping in lye was, of course, to crack the skin so that they would evaporate more quickly, and that of drying in the shade was to make the fruit of a lighter color. One fault of California Sultana is that it is too dark, it is usually dried by an exposure to the sun from fifteen to thirty days, and of course it is as dark as any other raisin. Another fault is, it lacks the richness of the imported article, in fact it is often sour; there are two causes for this, one is that the land on which it grows is too wet, either from irrigation or its naturally moist land. Another is gathering it before it is ripe, that is a point which is not so easily determined as with the Muscatel; when they hang in the sun they get amber-colored, but in the shade they do not and still one may be as ripe as the other. Every raisin maker knows that good raisins cannot be made from unripe fruit, so they would be sure that the grapes are ripe and sweet before they attempt to cure them.

The use of lye is a simple matter but one that requires a little experience to do just right. I would advise parties to experiment with a solution of either potash or soda, in the following proportion: one pound to twenty gallons of water, trying different temperatures of the solution until the right is reached, that is until the skins are cracked. The apparatus necessary for the application of the lye is simply a large iron kettle in which to heat the solution, and a basket made of wire cloth or perforated tin for the grapes. The next point is to cure the raisins as soon as possible. Success in this point will depend much on the locality. At my place, near Stockton, the grape has not been fully ripe before the 1st of October but one year in the five past, and that is the present one, which is fully one month earlier than any other in the same time. In warmer localities where the grapes are ripe by the 1st of Sept. they can be easily dried without the full exposure to the sun in fifteen days, even less. I have placed bunches in the building where no sun was able to reach them and dried them well, and as clear as an imported article.

Yours truly, W. B. WEST.
Stockton, Oct. 1, 1885.

The Yerba Buena Vineyard of Santa Clara county will make this year about 15,000 gallons of choice wine from foreign varieties of grapes, chiefly the Petit Pinot, or Black Burgundy, Riesling and Felle Blanche. One half of the vintage will be white wines and the balance clarets.

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VARIOUS EXPERIENCES IN FERMENTATION.

Reported by the State Viticultural Commission.

As a means to arrive at intelligent opinions respecting the rules in governing fermentation of red wines, several instances of peculiar experiences during the vintage this year will be cited as follows:

Prior to the 20th or the 22d of September the fermentations proceeded, so far as heard from, in all districts quite successfully, with one exception. This did not appear to be due to the fact that the grapes were picked with less sugar, because in many cases the must rose as high as 20 per cent, and yet complete fermentations were obtained. In vineyards where grapes were picked prior to that time there is practically no complaint of want of perfect fermentation, except in one instance, that has been heard from, which will require careful investigation and explanation.

From the 22nd to the 25th of September, reports began to arrive at the office of the Commission of "checked" or arrested fermentations of red wine, and from that time to the present date, the trouble has been continuous in most parts. During this period the weather in the country has continued, with slight variations, excessively warm, and the sugar of the grapes has increased rapidly.

Anticipating difficulty during this warm spell in their fermentations, many have attempted to find a remedy in picking the grapes and leaving them to cool over night before crushing. So far as heard from this expedient has not been a great success, grapes so treated not showing much variation in the results afterwards, as compared with those crushed as soon as picked.

It is generally known among wine makers that after a good fall rain, sufficient in quantity to thoroughly wet the grapes, and keep the air moist for at least twenty-four to forty-eight hours, fermentations are more regular and complete. Taking the hint given by Nature in this way some have recently commenced experiments to test the effect of leaving the grapes in boxes over night, during which time they are sprinkled so as to bring them into the condition that they may be found in after the rain. The result of this experiment has not yet been reported.

The exceptions where fermentation of red wines has proved continuously successful, are not yet fully known, but several may be reported upon at the present, each of which point to the line of remedy that may be applied. So far as heard from, where the grapes have been thrown into the vat without crushing and without stemming, being stirred and beaten up during fermentation frequently there has been complete success. Mr. DeTurk of Santa Rosa writes that he is having no trouble and is practicing the method so-called in this State, the "Morel" process, because it was introduced first by Mr. Morel of St. Helena. Whether he is practicing this process in its simplicity without stemming, or whether he is stemming the grapes and then fermenting them without crushing before-hand, is not yet reported. An unauthentic report comes from St. Helena that the fermentation at Mr. Scheffler's, where the Morel practice is usually followed, indicates like results. At the winery of Mr. Rollo M. Wheeler, Pine Station near St. Helena, one tank fourteen feet in diameter and four feet in depth, has been successfully fermented out, notwithstanding the must showed twenty-seven per cent of sugar. The grapes were however thrown in without crushing and without stemming. The latter experiment was also conducted in the open air under the influence of the full heat of the sun, the must during fermentation showing as high as 105 degrees Fahrenheit.

Three tanks of Zinfandel have been successfully fermented out near Livermore by Mr. Crellin, who stemmed the grapes but did not crush them, except so far as they were crushed during fermentation by stirring. These tanks were arrested in fermentation for a time but were easily started up by addition of fresh must, and finished. Following this Mr. Crellin fermented his

Mataro with twenty-four per cent of sugars but changed his practice by crushing the berries, the result being that within 18 hours after crushing his must fell from 24 per cent to six per cent and was checked. At the new winery of Hon. M. M. Estee near Napa it is reported that his red wines have gone through successfully; that he crushed his grapes, but that he practiced submerging the pomace, removing the false head twice a day in order to stir up the must. During the fermentation, after the false head is replaced, the wine or juice in fermentation was exposed at the surface, whereas without such heads the cap of pomace usually covers it. At the winery of Captain G. Niebaum, Rutherford, Napa county, Mr. McIntyre, who is in charge, commenced the addition of fresh must to the tanks as soon as the checking of fermentation appeared, and before the tanks were cooled off. In this way he has succeeded in perfecting the operations. Experiments made at Mr. Crabb's cellar at Oakville, by letting these tanks cool off after the fermentation was checked, before adding fresh must, shows that there is considerable difficulty in re-establishing the fermentation, although by adding fresh must in a condition of fermentation, the work appears to go on again successfully.

In many cases reported, after the wines have been found checked in the tanks, they have been drawn off into pipes where they have immediately started to referment, especially when a portion of the press wine has been mixed with the wine that runs freely from the tank. Where the press wine has been left separately after being drawn off it has generally started up a prompt and good fermentation. At Mr. Wheeler's the addition of the lees of one year old wine, to the musts which have not completed their fermentations, after they have been drawn off from the pomace, has succeeded in starting up a new and perfect fermentation.

Generally it may be stated that after the wine has been checked in fermentation, if it is drawn off and mixed with a portion of the press wine, together with also a small portion of fresh must in fermentation, the process of perfecting the work goes on after more or less delay, but finishing successfully. Where fresh must could not be obtained small lots of wine showing from five to eight per cent of sugar unfermented and cold, have been drawn into pipes, into which a small portion of water mixed with flour, and a part of the unfermented must has been first drawn, together with the addition of wine yeast, or in the absence of wine yeast the compressed Potrero yeast. In such cases, after a short time, sometimes varying between one day and four days, refermentation has set in and completed. This remedy can be applied wherever it becomes necessary to draw the wine off from the tanks for fear of spoiling by acetification.

The presence of a portion of the stems of the grapes in the fermenting mass appears in all cases to facilitate the completion of fermentation.

The numerous cases where the fermentations have been arrested enable observations to be made as to the conditions of the temperature, etc., under which the trouble has been experienced. From observations it appears that no lessons can be drawn at present from the degree of temperature prevailing in the cellar at the time fermentation was conducted. In many cases the arrest of fermentation has taken place where there has been no rapid rise in temperature and where the highest degree during the operation has not been exceeding 85 degrees Fahrenheit. The prevailing opinion that the increase of temperature during fermentation is the direct cause of these arrested actions, is overthrown by many instances, such as those where the temperature has raised from 100 to 105, without trouble. The low degree of temperature in the cellar is equally not the cause of the trouble, for in many cases perfect fermentation has been obtained where the temperature has not exceeded 80 to 85 degrees in the tank. The degree of sugar in the must has not been in most cases the apparent cause of the trouble as has been shown by numerous instances where 26 and 27 per cent have fermented out readily, while in other cases 23 per cent has been arrested.

Side by side with these arrested fermentations of red musts, where the skins are

fermented with the juice, have been uniformly successful fermentations of white must, in which the skins are not permitted to enter. In the case of black grapes where a portion of the berries have been dried by the sun into raisins it might at first be assumed that the cause of the difference between the success with red and white wines, was due to the fact that these dried grapes entered into the fermentation of red wine. That this, however, has not been the prevailing cause has been proved by several instances where such dried grapes did not exist, and in others where they were removed before crushing.

In nearly all cases where there has been an arrested fermentation with black grapes, there has been noticed a sudden precipitation of the decomposition of sugar into alcohol and carbonic acid gas. Where there has been successful fermentation at the same time, a period of from one to three days has preceded this rapid decomposition of sugar, during which time the first stage of fermentation, or the development of the wine yeast, has proceeded unchecked.

In attempts to revive fermentation in tanks which have become cold, the wine showing all the way from three to eight per cent of sugar remaining unconverted, it has been extremely difficult, if only a small portion of fresh must, even though it be in fermentation, is added, unless the compact cap of pomace floating on the surface has been first submerged so as to expose the liquid to the action of the atmosphere.

It appears from these facts and many others less important corroborating the same, that the most prominent difference of conditions noticeable between the fermentations of white and red wines is in the fact that as soon as the violent fermentation has set in with the red wine, unless a false head is interposed, the pomace rises above the liquid and covers the yeast, which forms on the surface of the juice during fermentation, whereas in white wine no such obstacle to the development of the top yeast occurs. In the case of white wines, the yeast which forms on the surface develops regularly and without impediment, whereas in the red wine, conducted as heretofore stated, this top yeast becomes imbedded in a mass of pomace full of carbonic acid gas, where the highest degree of heat prevails. The violence of the fermentation during the conversion of the sugar causes immense quantities of carbonic acid gas to be thrown off, and seems to check the development of the yeast germs. As soon as this impediment is removed the fermentation seems to re-establish itself, unless the must is allowed to cool off too much, when it requires new excitement. The removal of the false head twice a day to permit of stirring enables the formation of the yeast at the top to become distributed throughout the entire mass, whereas by keeping the false head in until the violent fermentation has passed may, more or less, prevent the connection between the lower part of the wine and the top, which is fermenting well.

The fermentation of grapes without crushing causes such radical difference of conditions that the process may be likened to a case where fresh must is added every day, because as soon as the grapes separate from the stems, or enter into the fermentation, there is a continuous discharge of fresh juice, and during the beginning of the operation the formation of the germ cells is not interfered with by the too rapid decomposition of the sugar. Various observations, not fully examined yet, however, appear to indicate that the musts of the grapes during the prevalence of long continued hot and dry weather, especially in years of drought, are more or less affected, so as to prevent the full energy of fermentation unless all impediments are removed. The source of trouble appears, however, to be in the condition of the germs of fermentation at the time the grapes are crushed. The effect of long continued heat and dry atmosphere upon them, in some cases in this State, has been noticed to produce a want of vitality sufficient to prevent all fermentation. During the recent difficulties with the wine-makers, however, those germs which exist upon the grapes and which excite the formation of yeast in the wine appear to be more excitable when moistened by the must after crushing, to such a degree that they precipitate the conversion of sugar into alco-

hol before they have developed themselves sufficiently to carry the entire fermentation through, especially when they are impeded in development by the presence of a solid and heavy cap of pomace. Various theories as to suitable remedies may be advanced, but the necessity of prompt action at the vineyards prevents their experimentation for immediate use. It is probable, however, if these precipitous fermentations were immediately fed on the top by large quantities of top yeast collected from white wine, they would be enabled to go through. This suggestion is worthy of experimentation.

It may be said that the best means at the present time known for reviving these checked fermentations is in the addition of freshly crushed grapes. If they can be permitted to stay by themselves in separate tanks until fermentation starts in them before being added to the tanks to be revived, so much the better. The quantity to be added, however, should not be less than one-sixth or one-fourth of the quantity which has been arrested. As soon as the surface of the pomace in the tanks which have been checked shows the least sign of acetification the top should be scraped off and the wine should be drawn into pipes or tanks for further treatment, as heretofore indicated, namely, by the addition of freshly pressed must in fermentation, or in default of this with small quantities of fermentative matter containing natural albumen, such as found in flour, with fresh yeast. These wines so drawn off should be treated and handled as white wines are handled during fermentation. If the lees of wines of last year's growth can be obtained, a portion of these, if perfectly sound, may be added with advantage.

Judging from the numerous observations made, such as have been referred to, it appears that during such periods as we have been passing through it would be best either to ferment the grapes without crushing, even though the stems are first removed, or to commence the addition of fresh musts to those already in fermentation, as soon as violent fermentation sets in, and continuing it at the least sign of arrest in the operation. Wine-makers with practical good sense will always know how to divide their packages, whenever they are too full, for this operation. In case all the tanks are full, a portion of the wine can be drawn off to make room for fresh must. The wine that is drawn off being treated as heretofore described.

In making white wine there have been also some important differences of result to consider. In several cellars this year the practice has been as follows: The grapes are crushed and stemmed and thrown into an open vat, to remain over night. The following morning the juice is pressed out and discharged likewise into an open tank. This juice is allowed to remain twenty-four hours, during which time a thick scum of top yeast forms on the surface and much sediment at the bottom. By skimming off the top yeast—which is useful to put upon tanks of red wine, or to feed a yeast tub—and drawing the clear juice which is starting to ferment into pipes, a regular progress of the wine making operation is noticeable afterwards. The removal of the top yeast appears to check the violence of the conversion of the sugar into alcohol, and the separation of the clear juice from the sediment that forms at the bottom takes out of the wine a certain degree of harshness. Side by side with white wines fermented in this way, there have been several tanks at Captain Niebaum's cellar fermented out, where, after the juice has been expressed from the pomace, it has not been drawn off, and the top yeast has not been disturbed. In such cases there has been noticed the same violence of fermentation that has characterized the red wines, but without checking, complete fermentation having been obtained. Only in a few instances have there been reports of checked fermentations of white wines, and from all the facts bearing on the case it appears reasonable to attribute the success of the operation to the cause just referred to, viz: the complete development of the wine yeast undisturbed and unimpeded. Wherever the white wines are checked from any cause it would be well to treat them as has been prescribed for red wines after they have been drawn off from the vats, unless it is desirable to permit them to remain sweet.

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Read Before the State Horticultural Society, February 29, 1884, by

FRED. POHNDORFF.

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OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO'S. STR. COLIMA, OCTOBER 1, 1885.

TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
T S, Boston	Dresel & Co	2 barrels Wine	99	\$ 49
C S, New York	J Gundlach & Co	2 barrels Wine	97	48
F D & S, New York	"	6 casks Wine	367	256
B S, Philadelphia	"	2 kegs Wine		
J B, Philadelphia	"	3 barrels Wine	147	104
J S, New York	"	4 puncheons Wine	658	394
F, in diamond, New York	"	1 barrel Brandy	50	125
A, in diamond, Brooklyn	"	6 1/2 casks Wine	693	429
H, in diamond, New York	"	40 puncheons Wine	6550	2947
"	"	10 barrels Wine	499	469
"	"	10 puncheons Wine	1878	1220
E H, New York	"	6 barrels Wine	99	247
"	"	2 1/2 casks Wine	674	471
"	"	2 barrels Wine		
F A, New York	Lachman & Jacobi	25 barrels Wine	1201	582
A V, New York	"	25 barrels Wine	1233	524
A, in diamond, New York	"	12 barrels Wine	589	260
G R, Heboken	"	5 barrels Wine	247	98
Triangle, New York	"	15 barrels Wine	736	386
G, in diamond, Cleveland	"	3 barrels and 4 half barrels Wine	259	151
M & H, Syracuse	"	4 barrels Wine	194	126
"	"	1 barrel Brandy	48	99
B D & Co., New York	B Dreyfus & Co	193 barrels Wine	8878	4000
"	"	10 half barrels Brandy	252	500
S Bros, New York	"	50 barrels Wine	2470	1050
Geetz Bros, New York	"	50 barrels Wine	2451	1075
J M, New York	"	10 barrels Wine	467	180
G J P, New York	"	5 barrels Brandy	239	550
F, in diamond, New York	S Lachman & Co	25 barrels Wine	1170	468
M, in diamond, New York	"	20 barrels Wine	926	370
K, in diamond, New York	"	5 barrels Wine	233	163
J S, New York	"	1 barrel Wine	46	41
"	"	1 barrel Brandy	47	100
F C T, Philadelphia	"	1 barrel Wine	48	20
A V Co, New York	Walter, Schilling & Co	40 casks Wine	4360	2180
"	"	90 barrels Wine	4306	2153
P Amanet, New York	"	15 barrels Wine	727	363
M Haecker, Brooklyn	"	2 octaves Wine	52	52
Hecht Bros & Co, Boston	"	1 cask Wine	61	61
L Sieghordner, New York	"	1 cask Wine	60	60
E Naumburg, New York	"	1 cask Wine	59	59
K & F, New York	Kohler & Frohling	225 barrels Wine	15836	8700
"	"	40 casks Wine		
"	"	10 puncheons Wine		
R, in triangle, New York	"	25 barrels Wine	1212	640
G, in triangle, New York	"	10 puncheons Wine	1563	700
Total amount of Wine			61046	\$30799
Total amount of Brandy			735	1621

TO CENTRAL AMERICA.

G C R It, San Jose de G'mala	Pae. Improvement Co	1 case Wine	5	6
G D B, Punta Arenas	Wilmerding & Co	12 cases Wine	36	153
T S, Punta Arenas	"	8 cases Wine	24	99
M L, Acajutla	John T Wright	4 kegs Wine	40	42
R W, Acajutla	"	2 cases Whiskey		20
L H K, Champerico	Eugene de Sahla & Co	2 kegs Wine	30	17
J F, San Jose de Guatemala	Napa Valley Wine Co	6 cases Wine	30	26
F Garcia, San Jose de G'mala	"	1 keg Wine	10	9
A F, Punta Arenas	B Dreyfus & Co	4 barrels Wine	197	125
G D B, Punta Arenas	"	8 barrels Wine	397	300
"	"	22 cases Wine	116	100
T S, Punta Arenas	"	10 half barrels Wine	269	250
M P Co, Punta Arenas	"	2 barrels Wine	124	80
"	"	1 half barrel Wine		20
"	"	4 cases Wine	20	20
M B, Punta Arenas	"	12 half barrels Wine	322	300
P A, Punta Arenas	"	4 barrels Wine	169	175
"	"	1 barrel Brandy	50	105
P C A, Champerico	Bingham & Pinto	10 cases Wine	50	43
"	"	5 cases Whiskey		40
R Q, San Jose de Guatemala	Urruela & Uriesto	2 kegs Wine	40	35
"	"	1 keg Whiskey	10	30
F B, Champerico	"	5 barrels Wine	50	52
H J, Acajutla	"	5 kegs Wine	50	37
"	"	6 cases Whiskey		54
Total amount of Wine			2003	\$1870
Total amount of Whiskey, 7 cases and			27	144
Total amount of Brandy			50	105

TO MEXICO.

C O Co, Mazatlan	L F Lastrute	1 keg Wine	10	10
A P, Mazatlan	Thannhauser & Co	5 cases Wine	25	48
"	"	2 octaves Wine	53	39
Total amount of Wine			88	\$97

TO NEW YORK—Per Shtp Jabez Howes.

C P M	C B Jennings	1 cask Wine	60	22
E B & S	Lachman & Jacobi	50 puncheons Wine	6699	2512
J D above S, in diamond	W Scheffler	200 barrels Wine	8350	2135
McGowan & Co	D Porter	78 cases Wine	390	137
L H Newton	L H Newton	1 barrel Wine	48	18
Total amount of Wine			15547	\$4925

MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL.	TRG.	GALLONS.	VALUE.
China	City of Peking	Steamer	252	\$222
New Zealand	City of Sydney	Steamer	10	8
Honolulu	Eureka	Barkentine	315	315
Hilo	Emma Claudina	Schooner	15	9
Tahiti	Tropic Bird	Barkentine	263	367
Honolulu	Mariposa	Steamer	1277	1053
Total amount of Wine			4432	\$1074

Total shipments by Panama steamers	63,949 gallons	\$34,636
Total shipments by other routes	19,979	6,899
Grand totals	83,928	\$41,535

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FOR SALE A LIMITED NUMBER OF CUTTINGS FROM CAREFULLY SELECTED Choice Wine Vines. The original stocks were imported from the most famous French Vineyards at great expense.

Cabernet Sauvignon, imported from Margaux, Lafit and Chateau Brown—Cantenc. This vine produces the highest class Bordeaux wine (claret).

Price per M.....\$25 Price per 100.....\$3

Cabernet Franc, from the above vineyard. A high grade claret variety.

Price per M.....\$25 Price per 100.....\$3

Verdot and Verdot Colon, also renowned for Clarets.

Price per M.....\$20 Price per 100.....\$2.50

St. Macaire, from the Palus District, Medoc. A strong, thrifty vine with great bearing powers, yielding a wine of intense color and of a true Claret type. Ripens early.

Price per M.....\$50 Price per 100.....\$6

Gros Mancin, from the same locality. A great bearer; the wine is of great color and quality. Ripens later than the St. Macaire.

Price per M.....\$50 Price per 100.....\$6

Franc Pinot, from Vongeoit and Beaune in the Bourgogne. Is a fair bearer and yields the most famous wines of Burgundy.

Price per M.....\$40 Price per 100.....\$5

Pinot Pernand, from Beaune. A good bearer, giving a wine of a high class Burgundy character.

Price per M.....\$40 Price per 100.....\$5

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Price per M.....\$20 Price per 100.....\$2.50

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Price per M.....\$25 Price per 100.....\$3

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Price per M.....\$20 Price per 100.....\$2.50

Also a limited number of cuttings of the Champagne varieties—Pinot Blanc, Clairette Blanche, Petit Bouschet, Alicante Bouschet, Marsanne, Grosse Blauer, Mennier, Teinturier Male, Folle Blanche, Kadarkas Noir, and many other fancy table varieties.

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SHERRY MAKING.

One of the most important lines of studies conducted this season by the Commission in several parts of the State is connected with an attempt to produce natural sherries after the manner of treatment in Spain. This has only been accomplished in California accidentally with good results under varying circumstances. The usual method of making sherry has been to treat wines under the influence of a high temperature in a heating apartment. In Spain natural sherries are produced by simple fermentation, completely dry; the wines being left in casks which are never quite full. Only certain wines can stand this treatment, and it is noticed also that the most of certain grapes only can be used. What we require to know is under what conditions and with what grapes such natural sherries can be produced. Science has not yet explained the nature of this treatment, although it has been referred to repeatedly by the most renowned investigators. Ordinarily, wines treated as sherries are made in Spain, will turn to vinegar. It is the belief of the Chief Executive Officer, who is directing some of the experiments, that by using the grape known here generally under the name of Golden Chasselas, but which is improperly so named, and also some certain other varieties, natural sherries can be produced in certain localities provided the right conditions of ripening and fermentation are observed. At the close of this vintage it is hoped that rules of sufficient accuracy can be formulated to guide those who desire to enter into this branch of industry which is much needed. Most of the experiments in this line will be conducted systematically at Mr. Crabb's cellar with test experiments in other valleys, among which places will be Stockton, Livermore and Los Angeles. The conditions for producing natural sherries appear to exist most prominently along the foothills of the Sierra Nevada, in the region in the vicinity of San Bernardino, in the valleys some distance back from the coast in San Diego, and in certain peculiarly favored localities such as Stockton, Livermore and some parts of Los Angeles county, as well as also in the northern part of the Sacramento valley. By understanding the principles which govern this peculiar treatment it is possible that the area throughout which natural sherry can be produced may be very largely increased.

Duty to Pay

EDITOR S. F. MERCHANT—Dear Sir: Will you kindly inform me in the next issue of the MERCHANT: Has duty to be paid for distilling brandy for one's own private use? Yours truly, A Subscriber. Fall Brook, San Diego Co., Cal. September 25, 1885. Yes.—[ED. MERCHANT.]

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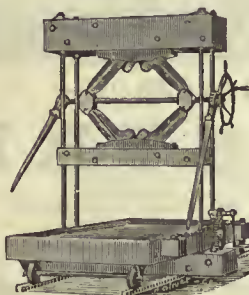
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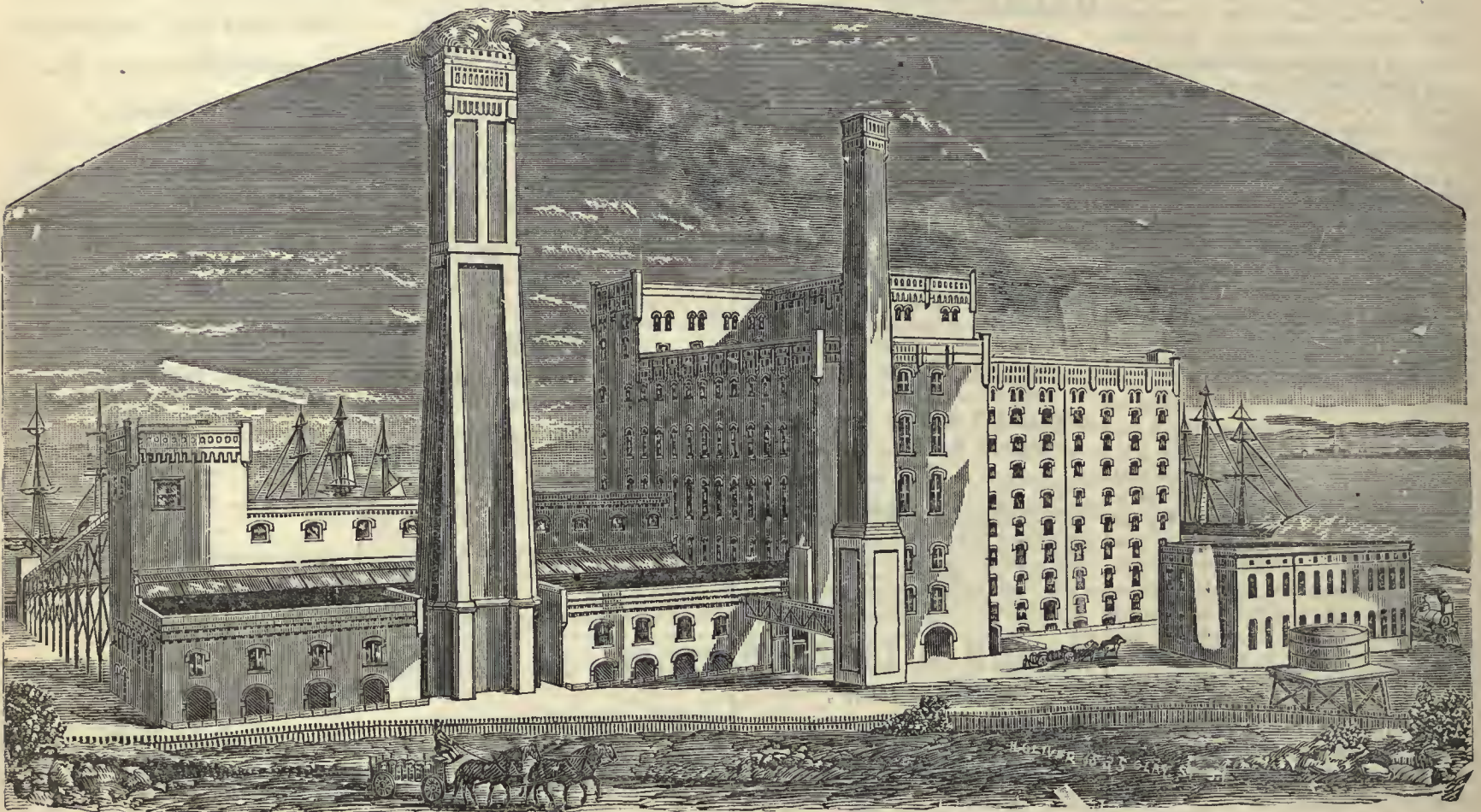
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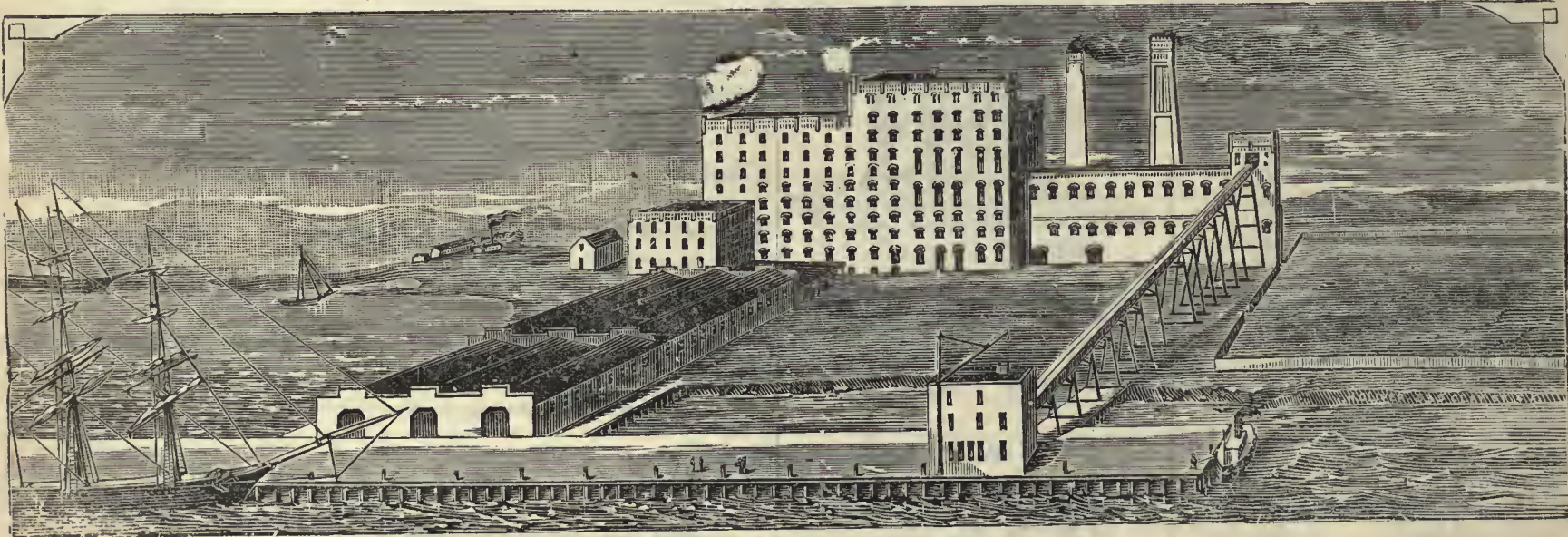
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West View of the New Refinery Building.



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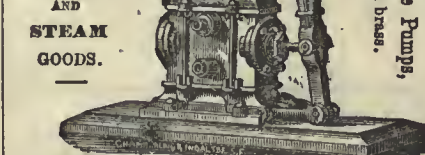
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